

Appendix A
Monthly Passage Partners Meeting
Summaries

Feasibility of Volitional Chinook Salmon Passage at Shasta and Keswick Dams

To: Shasta Volitional Passage Partners

Date: May 2, 2024

From: John Ferguson, Anchor QEA

Re: May 1, 2024, Coordination Call Notes

The Passage Partners met by conference call on Wednesday, May 1, 2024, from 4:00 p.m. to 5:15 p.m. Attendees are listed in Attachment A.

Summary of Action Items

1. Jason Roberts will contact LSNFH regarding whether a modernization plan for the hatchery is available. *(Jason emailed USFWS during the call.)*
2. Randy Beckwith will inquire internally whether DWR has a jet boat available from their Red Bluff facility on Wednesday June 5 to support the tour of the Sacramento River downstream of Keswick Dam. *(After the call Randy reported that a boat that can seat 4 or 5 passengers can be made available.)*
3. Randy Beckwith will contact John Hannon (Reclamation) and inquire as to John's interest in participating on the TAG.
4. Jason Roberts will contact NOAA Fisheries to inquire about LiDAR data collected in 2014/2015. *(Jason emailed NOAA during the call.)*
5. AQEA will verify that the data Matt sent awhile back is available to the team. *(John checked with Elizabeth after the call and the data have been uploaded to our SharePoint site and are available for the team to use.)*
6. Bekah Olstad will inquire about information the Tribe has collected on land ownership in the Cow Creek drainage and possible landowners that will grant access for temperature loggers.
7. John Ferguson, Randy Beckwith, and Mike Garello will meet and develop a draft proposal for TAG representation and schedule for the Partners to review. *(Meeting is scheduled for May 3, 2024).*
8. John Ferguson will coordinate again with Cathy Marcinkevage regarding NMFS' participation in the TAG.
9. Anchor QEA to update the invitation list to include everyone on future calls.
10. The next coordination meeting will occur as part of the June 2 – 7 tours in Redding.

Summary of Decisions

1. There were no decisions made during today's conference call.

Agreements

1. There were no agreements discussed during today's conference call.

Review Items

1. There were no review items (documents) discussed during today's conference call.

Documents Finalized

1. There are no documents that have been recently finalized.

I. Agenda

The following agenda was discussed:

- Introductions
- Contracting status
 - Physical and Biological Data Gaps
 - Volitional Passage Feasibility Study
 - Discussion
- Updates on work progress to date
 - Physical data gaps
 - Biological data gaps
 - Discussion
- Review Redding site visit
 - Overall objectives
 - Churn and Stillwater
 - Discussion
- Discussion topics
 - Coordination landowner outreach for data collection
 - Late fall Chinook
 - TAG approach and representation
 - Invite others to this call (NMFS? Reclamation?)

II. Summary of Discussions

Key topics discussed were as follows:

- Bekah reminded the parties to be respectful during the tour and that we will be accessing tribal territory during the June tour, and thus this is different than a typical project tour.

- The tentative head count for the boat tour on Wednesday June 5, 2024, is as follows:
 - WWT – 3
 - HDR – 3
 - AQEA – 4 (maybe 3)
 - USGS – 3
 - DWR – 4 (maybe3)
 - CDFW – 2 additional (Jason and Tina)

 - Total: 19 (maybe 17)

Attachment A – Attendees

Name	Organization
John Ferguson	Anchor QEA
Bekah Olstad	Winnemem Wintu Tribe
Melanie Cheung	Winnemem Wintu Tribe
Jason Roberts	CDFW
Matt Johnson	CDFW
Randy Beckwith	DWR
Mike Garello	HDR
Jill Hardiman	USGS
Michelle Havey	Anchor QEA
Amy Hanson	USGS
Caitlin Stockwell	USGS

Feasibility of Volitional Chinook Salmon Passage at Shasta and Keswick Dams

To: Shasta Volitional Passage Partners

Date: August 7, 2024

From: John Ferguson, Anchor QEA

Re: August 7, 2024, Coordination Call Notes

The fish passage feasibility study partners met by conference call on Wednesday, August 7, 2024, from 4:00 p.m. to 4:45 p.m. Attendees are listed in Attachment A.

Summary of Action Items

1. Anchor QEA will work with the salmon co-managers to schedule a meeting to begin discussing questions the consultant team will have for the co-managers once the engineering feasibility study has been initiated.
2. Anchor QEA to send out a Doodle poll to TAG representatives to schedule the first TAG meeting. This will be an all-day, in person meeting focused on brainstorming volitional passage alternatives. A tentative date of October 4 was discussed, but the actual date will be determined via a Doodle poll.
3. The next coordination meeting will occur on September 4, 2024, starting at 4 p.m.

Summary of Decisions

1. There were no decisions made during today's conference call.

Meeting Agenda

Updates on the following topics were presented by Anchor QEA, USGS, and HDR.

1. Update on contracting for Volitional Passage Feasibility Study
 - Anchor QEA is under contract to ICF/DWR as of this week.
 - USGS/HDR contracting is proceeding and in legal review.
 - The first TAG meeting needs to be scheduled.
2. Physical Data Gaps Updates
 - Temperature Study
 - Installation of temperature/flow loggers: Week of August 26th or Week of September 9th.
 - Locations were discussed.

- Working on landowner access/approvals; 6 of 8 confirmed already.
 - LiDAR data collection plan in Cow/Dry Creeks and McCloud River is under development. Contacted the vendor. Flight is planned for late September.
 - Barrier Survey on Cow/Dry Creek: Desk-top analysis is underway. Results of this and the LiDAR data will be reviewed and used to identify on-site verification survey sites in October.
 - Hydrology Study: Completed; includes McCloud River hydrology historical and future, with and without McCloud Dam.
 - Chinook Salmon Life History Summary: In progress; added a section for capturing any written Indigenous Knowledge; all four salmon runs being described.
 - Life Cycle Model: Initial estimate of collection efficiency has been completed; next steps are to incorporate hydrologic variability.
 - Data Compilation Task Updates (Utilities, Infrastructure, Water Rights, etc.): Ongoing; information being incorporated into project WebMap.
3. Biological Data Gaps Updates
- Reservoir Biological Studies
 - Telemetry: Equipment is on order; coordination with NMFS on study design and Reclamation on receiver deployment is proceeding; staff to tour receiver sites next week and begin installation; USGS has contacted co-managers to inquire their interest in being identified on a flyer for Shasta Dam visitors that explains the project and equipment.
 - Risk assessment: Ongoing; reviewing genetics aspects of donor sources.
 - Food web: Underway, multiple sampling to be conducted starting in September; zooplankton tows underway by CDFW; a second data collection of the reservoir's trophic structure will occur in November, and a third may occur next spring.
4. Questions Consultant Team has for Co-Managers
- Definition of Volitional Passage and Semi-Volitional or Partially-Volitional Passage
 - Volitional passage is defined as the passage of fish under all naturally passable flows, whereby a fish can enter and exit any passage apparatus or structure under its own power, instinct, swimming ability, and migration timing (NMFS 2022a). The terms semi-volitional or partially-volitional may be used to describe a passage apparatus or structure that exhibits both volitional and non-volitional components or where a volitional strategy is prioritized in combination with non-volitional elements where necessary to achieve feasibility.
 - Four runs of Chinook salmon are being considered during volitional passage feasibility studies: winter, spring, fall, and late fall.

- If the Consultant Team identifies impacts to the design of facilities for passing winter and spring run salmon when trying to also accommodate fall and late-fall runs, should winter and spring runs be prioritized over fall and late fall runs?
 - The Consultant Team is working from the assumption that volitional passage will need to be provided year-round for upstream and downstream migrants.
 - Guidance from co-managers on how to use an engineered collection facility in the McCloud River (to collect juveniles) to sample, block, or allow upstream migrating fish coming out of the reservoir to pass the facility.
5. Walk-on agenda items
- Jill Hardiman provided an overview of the symposium scheduled for October 2 at the Bay Delta Science Conference, and the plans to have the Shasta passage team meeting on October 3 in person (agenda TBD).

Attachment A – Attendees

Name	Organization
John Ferguson	Anchor QEA
Bekah Olstad	Winnemem Wintu Tribe
Matt Johnson	CDFW
Mike Garello	HDR
Jill Hardiman	USGS
Caitlin Stockwell	USGS
Seth Lawrence	CDFW
Elizabeth Greene	Anchor QEA
Rachelle Johnson	USGS
Jon Mann	CDFW
Randy Beckwith	DWR
Toby Kock	USGS

Feasibility of Volitional Chinook Salmon Passage at Shasta and Keswick Dams

To: Shasta Volitional Passage Partners

Date: September 4, 2024

From: John Ferguson, Anchor QEA

Re: September 4, 2024, Coordination Call Notes

The fish passage feasibility study partners met by conference call on Wednesday, September 4, 2024, from 4:00 p.m. to 5:10 p.m. Attendees are listed in Attachment A.

Summary of Action Items

1. Josh Black (DWR) to contact Michelle Havey (Anchor QEA) and coordinate on temperature string installations.
2. Anchor will cancel the next coordination meeting on October 2, 2024, because participants will be attending the Bay Delta Science Conference. We'll modify the meeting invitation to start the meetings at 3:30 instead of 4:00 p.m. beginning with the November 6 meeting.

Summary of Decisions

1. There were no decisions made during today's conference call.

Meeting Agenda

Updates on the following topics were presented:

1. Action Items from Previous Meeting (8/7)
 - Anchor QEA will work with the salmon co-managers to schedule a meeting to begin discussing questions the Consultant Team will have for the co-managers once the engineering feasibility study has been initiated. (e.g., 1. Prioritization of winter-run and spring-run over fall and late fall if needed? 2. Definition of volitional and semi-volitional? 3. For a McCloud River collector what are the sampling and passage requirements?)
 - Anchor QEA to send out a Doodle poll to TAG representatives to schedule the first TAG meeting. This will be an all-day, in person meeting focused on brainstorming volitional passage alternatives. October 10th was selected – looking for a location for the meeting. The meeting will start at 9 a.m. (*Completed - see the TAG meeting update from today's call below*)
2. Physical Data Gaps Update

- Temperature Study
 - Installation of temperature/flow loggers: Need to confirm with a key landowner (to install a flow meter next to USGS gage) week of September 16th. Dry, Little Cow, and Cow on Mon-Tues; Wed-Thurs will install tidbits in McCloud.
 - Checking on taking flow measurements at the time of installation.
 - Coordinating with Tribe on field assistance.
 - Building a temperature string this week for delivery to USGS for installation by USGS in Shasta Lake (Pit arm near Jones Valley) this month. Caitlin indicated receiver installations in Shasta Lake and at Shasta Dam will occur next week.
- LiDAR data collection in Cow/Dry Creeks and McCloud River
 - Under contract with NV5. Scheduled for late September or early October. Tom Prescott from HDR is helping. Discussed the technology and how data will be used with Bekah.
 - Contract requires NV5 to analyze data within 60 days.
 - Elizabeth will ask NV5 to prioritize analyzing Little Cow and Dry Creek LiDAR data for input into the Barrier study.
- Barrier Survey on Cow/Dry Creek
 - Based on existing LiDAR data (2019), Anchor ran a profile, developed a 2D model down the alignment and we're doing initial QAQC to ensure we're not missing the thalweg. We've created a GIS database identifying everything that looks like it could be a local barrier. Will want to walk some reaches in the channel (for sure ~1.0+ km reach, East Dry to Mirror Valley Road due to the high gradient; there may be additional reaches). Will be walking the channel and accessing via road right aways. Curtesy contacts for landowners may be conducted; Tracy to identify who needs to be contacted.
 - Anchor sent road crossing locations to HDR (Anna is updating; reached out to CDFW; determine what is under the road crossings (bridges or culverts)).
 - Will update the approach and information with new LiDAR data collected in 2024.
- Hydrology Study
 - Draft completed, provided to CDFW and Tribe.
 - Anchor is conducting a tech edit now to finalize the document and will distribute it to interested parties.
- Chinook Salmon Life History Summary
 - Purpose is to provide Consultant Team with an overview for consistency.
 - Anchor is finalizing winter- and spring-run; USGS working on fall-run and late-fall run.
- Life Cycle Model
 - Noble is using the WRLCM to back calculate rates to understand what collection efficiency would need to be and what through-project survival would need to be to support the population through time and hydrological cycles.

- Working on analyses specific to WY.
 - Shooting to provide preliminary findings by the October 10th for the TAG meeting.
 - Data Compilation Task Updates (Utilities, Infrastructure, Water Rights, etc.)
 - Infrastructure limitations TM – data being compiled, a draft TM being developed. Integration of data (e.g., LiDAR, electric services, access points, ownership, transportation corridors) into GIS mapbook. Internal QC next week. Will update the TM as new information is collected.
 - Water-related infrastructure barriers and water rights TM – data compiled; upcoming meeting with DWR water master (coordinated with CDFW); Cow Creek water rights. TM being drafted for internal review.
 - The team discussed where water is going to come from and if it goes down Dry, Little Cow, Cow creeks, will it remain or will existing water users with rights pull it out to satisfy their water rights? Based on HDR's research to date, there is a hierarchical system of water rights on Cow Creek:
 - Pre-1914
 - Post-1914: priority system related to seniority and position on the creek
 - ACTION: HDR to ask the Water Master if there is a legal or regulatory mechanism in place to protect instream flows.
 - HDR to summarize 2023 JSCS report and findings for the Consultant Team.
 - Based on the June 7 site visit debrief in Redding, Anchor has developed the following memos for the Data Gaps Team to use and follow:
 - Communication protocols (with co-managers, press, etc.)
 - Preliminary reintroduction goals and objectives (based on the co-management agreements and NMFS Recovery Plan)
 - Winnemem Wintu Tribe's overall guidance for volitional passage (Wisdom from Chief Sisk)
 - List of important questions the consultant team will need to discuss with the salmon co-managers (outlined in the August action item above)
3. Biological Data Gaps Update
- Telemetry: Caitlin indicated the first tagging will occur on September 23rd. A total of 68 fish will be tagged and the fish will be released the next day. The release location is still being finalized. There will be a total of 10 releases of 68 fish for the combined NMFS/USGS telemetry studies. Tagged fish intercepted at the JSCS will be transported to Redding and released. Receivers in Shasta Lake will be in place through February; the receiver network downstream of Keswick will allow tagged fish to be monitored as they outmigrate. Test fish are 80-100 mm FL.
 - Food web: USGS is in the field sampling Shasta Lake (net tows and hydroacoustics).
 - Risk assessment: No updates at this time.
 - PNW Reintroductions manuscript; Toby has organized a meeting of ~20 scientists on September 26 to discuss ongoing reintroduction programs.
4. Other updates:

- Egg transfers and Nur Nature system: All transfers completed; the last transfer of eggs was delivered to the Nur system, not the Heath trays.
 - JSCS: Installation is underway, with the initial location being near the Ellery Creek CG. Temperature strings (3 to 5 both upstream and downstream) going in at the same time and PNNL will be collecting environmental data.
 - Inclined plane trap: Installation has been completed. Problems with high vegetation loadings on panels caused issues that had to be dealt with. The IPT is up and running now and 1 fry was captured yesterday so some fish are moving.
 - We have been informed by NMFS that another notice of funding opportunity (NOFO) for fish barrier work will come out in fall 2024, for award in late 2025 or early 2026. Melanie Cheung has set up a meeting with the Office of Habitat Conservation for October 5th to obtain a debrief on why the 2 proposals submitted in 2023 to similar NOFOs were not funded. The proposals focused on taking a selected passage alternative to a 60% design level and initiating permitting (i.e., Step 3 of the co-managers plan). Following the debrief a decision will be made on whether to apply to the next NOFO.
 - Co-managers met with Reclamation on August 23 and briefed Karl Stock and Dave Mooney.
 - Following that meeting, Mooney is working on a plan for Reclamations support to reintroduction; the Anchor Team met with Mooney today and discussed details; Mooney will be reaching out to co-managers when he has organized their plan.
5. Volitional passage feasibility study contracting update
- Anchor is under contract to ICF/DWR and has focused on setting up the first TAG meeting and the SharePoint site the team will use for the project.
 - USGS is under contract to DWR; USGS issued a RFQ for engineering support; proposals are due September 9th; we hope to have all contracts in place by the end of September.
6. TAG updates
- The first TAG meeting is scheduled for October 10th, Sacramento, 2nd Floor of Reclamation's Bay Delta Office (801 "I" Street), 9 a.m. to 5 p.m.
7. Walk-on agenda items
- Mike: In the course of today's call, we need to think about and identify any agenda items for the TAG meeting.

We discussed the need to incorporate traditional ecological knowledge into the TAG discussions (we selected a date so that Chief Sisk could attend the meeting on October 10th), whether to send out materials ahead of the meeting to get participants thinking about alternatives, and whether to incorporate some presentation on fish passage systems at high-head dams. Mike, Elizabeth, and

John are meeting in Gig Harbor on September 9th to discuss the agenda for the TAG meeting.

Attachment A – Attendees

Name	Organization
John Ferguson	Anchor QEA
Mike Garello	HDR
Caitlin Stockwell	USGS
Seth Lawrence	CDFW
Melanie Cheung	Winnemem Wintu
Josh Black	DWR
Toby Kock	USGS

Feasibility of Volitional Chinook Salmon Passage at Shasta and Keswick Dams

To: Shasta Volitional Passage Partners

Date: November 6, 2024

From: John Ferguson and Elizabeth Greene, Anchor QEA

Re: November 6, 2024, Coordination Call Notes

The Passage Partners met by conference call on Wednesday, November 6, 2024, from 4:00 p.m. to 5:00 p.m. Attendees are listed in Attachment A.

Summary of Action Items

1. Anchor QEA will work with the salmon co-managers to schedule a meeting to begin discussing questions the Consultant Team will have for the co-managers now that the engineering feasibility study has been initiated.
2. The next coordination meeting will occur on December 4, 2024, at 4 pm.

Summary of Decisions and Agreements

1. There were no decisions made during today's conference call.

Meeting Agenda and Discussion

The following agenda was discussed:

1. Action Items from Previous Meeting (9/4) (notes attached)
 - a. Josh Black (DWR) to contact Michelle Havey (AQ) and coordinate on temperature string installations. Completed. Initial coordination completed. Continuing to coordinate as needed.
 - b. Follow up from 8/7 meeting still outstanding: Anchor QEA will work with the salmon co-managers to schedule a meeting to begin discussing questions the Consultant Team will have for the co-managers now that the engineering feasibility study has been initiated.
2. Physical Data Gaps Update – Anchor and HDR
 - a. Temperature Study
 - Installation of temperature/flow loggers: Occurred in mid-September
 - First temperature data download will occur in either of the first two weeks of December based on landowner access and flows.

- Team is updating the tech memo to include the installation sites and other details
- Michelle to follow up with CDFW on taking photos of install locations
- Michelle to follow up with Josh Black to discuss data sharing
- b. LiDAR data collection in Cow/Dry Creeks and McCloud River
 - Occurred in early October
 - Cow Creek/Dry Creek Data Collection
 - (a) Data collection went well and we will receive the deliverable from NV5 by mid-December and potentially sooner as they committed to trying to expedite Cow/Dry Creek deliverables
 - McCloud River Data Collection
 - (a) Unfortunately, they did not get any river surface data
 - (b) Data was collected on 10/7:
 - (c) Flows were around 330 cfs
 - (d) Turbidity was 39 (had been 2 in late September)
 - (e) Path Forward:
 - (i) Get further into the alternatives analysis and get focused areas, then decide if we need to do additional data collection on narrower areas
- c. Barrier Survey on Cow/Dry Creek
 - Field Efforts
 - (a) Road crossings data collection for HEC-RAS model
 - (i) HDR collecting data in the field on 11/6 and 11/7
 - (b) Barrier verification survey will occur later in the year after LiDAR data is received and desktop study is completed
- d. Hydrology Study
 - Almost complete; updating a figure
- e. Chinook Salmon Life History Summary
 - WRCS, SRCS, and FRCS almost done; will need to work with Tribe to incorporate Indigenous Knowledge to the extent they want to share
- f. Life Cycle Model
 - Noble is continuing to work on the level of reintroduction needed for a successful cohort and under what conditions that is possible. There are some years where perfect outmigration survival would still lead to a reduction in the cohort due to the survival in the remainder of the system.
 - He is also working with Cyril and Rachel to update the collection efficiencies that they were able to achieve this year.
 - Lastly, he's working on a more general model development to evaluate how yearlings can be incorporated into the WRLCM
- g. Data Compilation Task Updates (Utilities, Infrastructure, Water Rights, etc.)
 - Access Limitations TM (Transportation corridors, diversions, barriers, etc.)
 - (a) Will have a draft done within the next few months
 - Water Related Infrastructure and Water Rights TM
 - (a) Work is ongoing

- (b) TM is expected to be drafted by the end of the year
 - Water Supply and Thermal Gain Evaluation Memo/Report
 - (a) This is getting under way now and may be a report rather than a memo due to the size/extent of document
 - Summary of JSCS Data: Head of Reservoir Collection
 - (a) Draft is almost ready for internal review.
- 3. Biological Data Gaps Update - USGS
 - a. Telemetry Study
 - Completed 5 releases so far, total of 470 released. Fish releases are joint between USGS and UCSC.
 - Nov 18 and December 8 are the next 2 releases that are scheduled, which will result in just under the 680 fish goal.
 - A few tags died or didn't turn on. So far 2 fish detected at JSCS were transported and released below Redding.
 - 7 fish have been detected below JSCS in the McCloud Arm (the first receiver is 6 mi downstream of the JSCS).
 - The next receiver download will be in 2 weeks.
 - Gary asked about the need and purpose of the telemetry study, which was reviewed, along with the test fish being used. Fish size at release is 90-130 mm.
 - b. Food web, reservoir ecology study
 - Purpose is to address what is the predation risk in the reservoir, how many target fish are surviving reservoir transit, and are the target fish growing?
 - USGS is also conducting gill netting to assess predator assemblage in the reservoir.
 - The reservoir is still quite warm down to 20 m.
 - Continuing to sample Chinook for age-growth modeling.
 - c. Risk Assessment
 - Fish health assessment chapter related to reintroduction effort has been developed and USGS is starting to populate the sections.
 - Risk assessment – similar update, USGS has a draft outline developed and is starting to populate the various sections. Will circulate internally first and then to this Shasta coordination group for review, and then will work to finalize the document.
 - d. PNW Reintroductions manuscript
 - 2 meetings conducted to date, outline has been started and the team of authors is working on case study summaries, next meeting is November 26.
- 4. Other Updates
 - a. Nur Nature Based System
 - Fish are still in the system; UCD is starting to remove their equipment due to weather; Tribe feels it was a successful year, and fish are still rearing and moving out of the Nur system.
 - b. JSCS

- Seeing more debris loading this year than last year; more neutrally buoyant material that must be removed. Seeing potential predation upstream of the JSCS (couple hundred rainbow and brown trout). Trap was working well physically at the upper location tested.
- c. Inclined Plane Trap Installation
- The trap has caught a lot of fish, but weir panels have been clogging which requires a lot of maintenance. Next year CDFW may increase the number of porosity holes and Tribe and CDFW want to install the trap ahead of the fish releases next year to work out and design changes, and operational requirements before the fish start arriving. Trap design is good, but the issue has been associated with the weir panels. The Tribe wants to be involved with the design prior to next year. Also, will need to find the sweet spot for operating the trap (depth and velocity), and the program could involve 2-3 traps used in sequence. Trap efficiencies started out low (0%) but recently has been around 75%.
- d. TAG Meeting #1 was conducted on October 15th, consultant team is working to get meeting materials out (alternative matrix, PowerPoint and meeting notes). The next TAG Meeting is scheduled for January 22, 2025, same location but different room, from 9 to 5.
5. Walk-on topics: none

Attachment A – Attendees

Name	Organization
John Ferguson	Anchor QEA
Elizabeth Greene	Anchor QEA
Bekah Olstad	Winnemem Wintu Tribe
Gary Mulcahy	Winnemem Wintu Tribe
Jason Roberts	CDFW
Jon Mann	CDFW
Randy Beckwith	DWR
Jill Hardiman	USGS
Caitlin Stockwell	USGS

Feasibility of Volitional Chinook Salmon Passage at Shasta and Keswick Dams

To: Shasta Volitional Passage Partners

Date: December 4, 2024

From: John Ferguson and Elizabeth Greene, Anchor QEA

Re: December 4, 2024, Coordination Call Notes

The Passage Partners met by conference call on Wednesday, December 4, 2024, from 4:00 p.m. to 5:00 p.m. Attendees are listed in Attachment A.

Summary of Action Items

1. Follow up from 8/7 meeting still outstanding: Anchor QEA will work with the salmon co-managers to schedule a meeting to begin discussing questions the Consultant Team will have for the co-managers now that the engineering feasibility study has been initiated.
2. The next coordination meeting will occur on January 8, 2025, at 4 pm.

Summary of Decisions and Agreements

1. There were no decisions made during today's conference call.

Meeting Agenda and Discussion

The following agenda was discussed:

1. Action Items from Previous Meeting (11/6) (notes attached)
 - a. Follow up from 8/7 meeting still outstanding: Anchor QEA will work with the salmon co-managers to schedule a meeting to begin discussing questions the Consultant Team will have for the co-managers now that the engineering feasibility study has been initiated.
2. Physical Data Gaps Update – Anchor and HDR
 - a. Temperature Study
 - The Temperature Suitability and Water Availability Tech Memo evaluates thermal gain associated with different potential passageways with existing and future climate and will identify the amount of water needed and where it could come from to maintain appropriate thermal conditions for fish during times of the year they are expected to be present. This TM is under development with an estimated due date of January or February.

- Data collection update: the AQ team is headed out on 12/10 and 12/11 to the temperature logger installation sites to download data, collect cross section flow data (in Cow/Little Cow/Dry creeks only) and eDNA water samples (in Cow/Little Cow/Dry creeks only).
 - Anchor QEA has approval from NMFS to process the eDNA samples.
 - Temperature Tech Memo is under development; figures are done, and Tech Memo updated with information from the logger installation in September.
- b. LiDAR data collection in Cow/Dry Creeks and McCloud River
- Waiting for NV5 to deliver the data, which is due in early December (60 days after collection).
We received the void data where they could not collect any bathy/topo.
- c. Barrier Survey on Cow/Dry Creek
- Need to get the NV5 data for Cow Creek, Little Cow Creek, and Dry Creek and road crossing data collected by HDR last month to update the HEC-RAS model. Once the HEC-RAS model has been updated, depth and velocity criteria for defining a passage barrier will be applied to identify potential barrier areas.
- d. Hydrology Study
- Completed, finalizing Tech Memo, and will distribute.
- e. Chinook Salmon Life History Summary
- Winter and spring-run Chinook salmon sections completed and are ready for QC and tech edit; USGS is completing fall and late-fall Chinook salmon sections.
- f. Life Cycle Model
- Reviewed existing models (WINSIP and OBAN) and various water year types to get a handle on downstream survival (starting below Keswick in existing spawning reach and hatchery release points depending on origin of fish) and estimate the collection efficiency needed in the McCloud to obtain a sustainable population (defined as a population with a cohort replacement rate greater than 1).
 - Winter-run Life Cycle Model developed by the NMFS Southwest Fisheries Science Center (and Noble) is being updated through a separate process and we are hoping to use the updated version for this effort.
 - Thinking about how to incorporate the presence of yearlings in the McCloud and fish that migrate downstream after spending a year or more in freshwater into the model. Currently looking at spring-run yearlings in Mill Creek to help think about winter run yearlings.
- g. Data Compilation Task Updates (Utilities, Infrastructure, Water Rights, etc.)

- Infrastructure Tech Memo has been drafted; water related infrastructure Tech Memo is under development, due date of January or February; summary of JSCS information has been completed.
- h. Pacific NW tour 2025
 - Starting to work on an itinerary for the tour that will be shared with partners in the new year.
- 3. Biological Data Gaps Update - USGS
 - a. Telemetry Study
 - Last release was yesterday; 650 total (not 680) fish released to date; Dec 16th will download receivers; last download was 2 weeks ago and the furthest downstream fish were detected was the mouth of McCloud Arm where 7 fish were detected out of 475; no fish have been detected at the dam or in the reservoir; hopefully the recent high flow pushed some fish downstream.
 - Will continue with monthly downloads until they stop seeing fish. USGS was going to remove gear at the end of February but that will likely be extended.
 - b. Food web, reservoir ecology study
 - Finished last sampling before the coordination call last month; USGS is compiling the data ahead to prepare the date for processing (diet, otoliths, and isotopes).
 - Reached out to Rachel Johnson to see if Cramer Fish Sciences could sample 13 Chinook salmon collected from the reservoir for winter run genetic analysis.
 - USGS is working with NMFS to conduct isotope analysis on 500 rainbow trout from the McCloud to see what they are eating and whether winter run are in the diet.
 - c. Risk Assessment
 - Draft list of risks has been developed; adding literature review of the risks; will circulate draft to the partners shortly as an internal review is being conducted now.
 - The health assessment framework is progressing.
 - d. PNW Reintroductions manuscript
 - Meeting monthly to organize content; targeting the *Reviews in Fish Biology and Fisheries* journal.
- 4. Passage Feasibility Study Update
 - a. Study Plan under development; draft completed; will finalize, conduct technical edit, and distribute.
 - b. Alternative Matrix
 - After TAG meeting #1, working on a matrix of alternatives and evaluating all the alternatives

- (a) Had a meeting last week to identify fatal flaws and uncertainties with each alternative
 - (b) Another meeting is set for mid-December to evaluate advantages and disadvantages of each option to prepare for TAG Meeting #2.
 - (c) The matrix evaluation will be discussed at TAG Meeting #2 and alts will be dropped.
 - (d) Call participants provided feedback on the TAG meeting.
 - c. TAG Meeting #2 set for January 22nd; Natural Resources Building, Sacramento,
5. Other Updates
- a. JSCS
 - Out of operation since November 20th and will be going back into service on Friday.
 - b. Inclined Plane Trap Installation
 - Removed November 20th. Out for the season.
6. Walk-on topics: none

Attachment A – Attendees

Name	Organization
John Ferguson	Anchor QEA
Gary Mulcahy	Winnemem Wintu Tribe
Jon Mann	CDFW
Jill Hardiman	USGS
Caitlin Stockwell	USGS
Matt Johnson	CDFW
Melanie Cheung	Winnemem Wintu Tribe
Mike Garelo	HDR
Seth Lawrence	CDFW

Feasibility of Volitional Chinook Salmon Passage at Shasta and Keswick Dams

To: Shasta Volitional Passage Partners

Date: January 8, 2025

From: John Ferguson and Elizabeth Greene, Anchor QEA

Re: January 8, 2025, Coordination Call Notes

The Passage Partners met by conference call on Wednesday, January 8, 2025, from 4:00 p.m. to 5:00 p.m. Attendees are listed in Attachment A.

Summary of Action Items

1. The next coordination meeting will occur on February 5, 2025, at 4 pm.
2. Anchor QEA will remove the TEK section in the Chinook Salmon Life History Summary since it may be publicly available. Anchor QEA will make the Summary and other deliverables ADA compliant if there is room for this within the existing budget.
3. John will send a presentation and papers around from an Okanogan Reintroduction Study (Sockeye Salmon).

Meeting Agenda and Discussion

The following agenda was discussed:

1. Action Items from Previous Meeting (12/4) (notes attached)
 - a. Follow up from 8/7 meeting still outstanding: Anchor QEA will work with the salmon co-managers to schedule a meeting to begin discussing questions the Consultant Team will have for the co-managers now that the engineering feasibility study has been initiated.:
 - This coordination is being addressed through the TAG meetings
2. Physical Data Gaps Update – Anchor and HDR
 - a. Temperature
 - Data collection update
 - (a) Loggers from Cow Creek/Little Cow Creek/Dry Creek were downloaded on 12/10 and loggers from the Winnemem Waywaket were downloaded on 12/11. The team could not access the 2 uppermost sites at the TNC property due to inclement weather conditions. The next scheduled collection event will be in April 2025.

- (b) Michelle is reaching out to Matt Johnson (CDFW) to request CDFW take photos at three locations on a monthly basis to evaluate water levels at the temp logger installation sites. Locations include the following:
 - (i) Bridge at HWY 44
 - (ii) Meyer Road Bridge
 - (iii) Wooten's Bee Supply place
 - (c) Michelle will also be reaching out to Josh Black at DWR regarding sharing temperature data
 - Temperature Suitability and Water Availability TM
 - (a) The team has been evaluating temperature data for potential fish pathways and is working on the TM.
 - (b) Team is also looking at water availability and how much flow may be needed for various pathways to obtain adequate stream temperatures for fish.
- b. LiDAR
 - NV5 sent deliverables to Anchor QEA via FedEx on 1/6, and it was received today.
- c. Barrier Study
 - Anchor QEA did a preliminary potential barriers evaluation (using slopes) and a 2d HECRAS model based on the 2019 LiDAR data, which is not good quality. It shows there are a lot of potential fish passage challenges above East Dry Creek in the part of the creek that goes around a high feature and goes away from the road.
 - John summarized the categories of potential passage issues that we see coming up as barriers which include:
 - (a) Really shallow sheet flow in the lower Dry Creek valley
 - (b) Bedrock drops and high velocities in the area above East Dry Creek around the high feature
 - (c) Steep drops in elevation at constrictions
 - Now that we have the updated LiDAR data, we will update the 2D model and update the barrier evaluation.
- d. Hydrology Study (completed)
 - TM is ready for a final Tech Edit and then we will distribute
- e. Chinook Salmon Life History Summary
 - Going through QC and tech edit and then the USGS review process
- f. Life Cycle Model
 - Noble has been cleaning up the table of expected collection efficiencies needed to generate a sustainable population by water year type, defined as

one with a cohort replacement rate greater than 1. He will be presenting this information virtually at the TAG 2 Meeting in a few weeks.

- He is also looking at a paper by Winship that estimates natural origin Chinook survival by WY type and wants to incorporate that data into his analysis. Right now he is back calculating natural origin survival from survival estimates for hatchery-origin fish.
- John mentioned an Okanogan Reintroduction Study (Sockeye Salmon) that focused on egg/fry survival and had great production outcomes despite downstream habitat degradation issues. By fixing the production side they overcame downstream effects. This could apply to Shasta Reintroduction efforts.

g. Compilation of Utilities, Infrastructure, Water Rights Data/Information

- Infrastructure Limitations TM
 - (a) TM will be ready to distribute to the consultant team for review in February.
- Water Related Infrastructure TM
 - (a) TM going through an internal QC and will be ready to distribute to the consultant team for review in February.
- JSCS Available Data Summary TM
 - (a) TM will be ready to distribute to the consultant team for review by the end of January/early February.

h. PNW Tour 2025

- Tour is tentatively scheduled for the week of May 19th and includes the following stops:
 - (a) Cushman (Hood Canal, WA) Facility—adult lift system and downstream floating surface collector
 - (b) Cle Ellum, WA—volitional (helical) downstream juvenile Sockeye salmon system is being constructed; adult trap and haul facility; Talk to Yakama Nation about reintroduction lessons learned
 - (c) Nelson Dam—Nature like fishway example
 - (d) Prosser Dam—guidance barrier; talk to Yakama Nation about reintroduction efforts

3. Biological Data Gaps Update - USGS

a. Telemetry Study

- Last download of data occurred the week of December 18th. A total of 656 fish were released between September and December. Of these fish 30 have been detected at the 1st gate (about 6 miles downstream of the JSCS). 10% reached the confluence of the McCloud Arm with Shasta Reservoir. 1 fish was detected at the dam. Cyril reported today that 1 fish was detected downstream of Shasta Dam at Meridian Bridge. This fish is different than the one detected at the dam, was not captured in the JSCS, and was not transported downstream.
 - Next data download will occur in two weeks.
- b. Food web, reservoir ecology study
- Team is continuing to coordinate the genetic analysis with NMFS.
- c. Risk Assessment
- Framework has been developed and Jill continues to develop it. A health assessment framework is also being developed.
- d. PNW Reintroductions manuscript
- No updates were provided on this item.
4. Passage Feasibility Study Update
- a. Team has been preparing for TAG Meeting #2
- b. Currently have 49 upstream and downstream alternatives
- c. Goal of TAG Meeting #2 will be to agree on a framework the consultant team will then use to evaluate potential alternatives and narrow list down to 3 upstream and 3 downstream by April TAG Meeting
5. Other Updates
- a. JSCS—no time was left for an update
- b. Inclined Plane Trap Update—no time was left for an update
6. Walk-on topics—no walk on topics were identified

Attachment A - Attendees

Name	Organization
John Ferguson	Anchor QEA
Elizabeth Greene	Anchor QEA
Jon Mann	CDFW
Gary Mulcahy	Winnemem Wintu Tribe
Jill Hardiman	USGS
Caitlin Stockwell	USGS
Matt Johnson	CDFW
Seth Lawrence	CDFW
Chris Townsend	PSMFC
Rachel Johnson	NMFS
Jason Roberts	CDFW
Michal Koller	DWR
Amy Bailey	DWR

Feasibility of Volitional Chinook Salmon Passage at Shasta and Keswick Dams

To: Shasta Volitional Passage Partners

Date: February 5, 2025

From: John Ferguson and Elizabeth Greene, Anchor QEA

Re: February 5, 2025, Coordination Call Notes

The Passage Partners met by conference call on Wednesday, February 5, 2025, from 4:00 p.m. to 5:00 p.m. Attendees are listed in Attachment A.

Summary of Action Items

1. The next coordination meeting will occur on March 5, 2025, at 4 pm.

Meeting Agenda and Discussion

The following agenda items were discussed:

1. Action Items from Previous Meeting (1/8) (notes attached)
 - a. Anchor QEA removed the TEK section in the Chinook Salmon Life History Summary (Summary) since it may be publicly available. Anchor QEA worked with vendors to determine the feasibility and cost of making a document 508 compliant and will make the Summary ADA compliant if it is made publicly available.
 - b. John sent a presentation and papers around from an Okanogan Reintroduction Study (Sockeye Salmon).
1. Physical Data Gaps Update – Anchor and HDR
 - a. LiDAR
 - LiDAR task is complete; we received data from NV5 in early January and are now incorporating the data into our evaluations.
 - b. Barrier Study
 - Newly collected LiDAR data is being incorporated into the hydraulic model so that it can be re-run to identify potential barriers.
 - Updated modeling will be completed over the next few weeks.
 - Field verification of potential barriers will occur in March, weather/flow permitting
 - c. Hydrology Study (completed)
 - Final version will be posted to the SP Site for everyone to access.

- d. Chinook Salmon Life History Summary Update
 - QC of the document is under way.
 - Tech edit will occur after QC review.
 - We want to have CDFW review after the tech edit and then decide if it will be a publicly facing document.
 - If it is publicly facing, Anchor QEA will make it 508 compliant.
- e. Life Cycle Model
 - Noble is coordinating with NMFS and DWR on natural-origin fish data to use for life cycle model.
 - Noble is continuing to work on the table of expected collection efficiencies needed by water year type to generate a sustainable population, defined as one with a cohort replacement rate greater than 1, by incorporating natural origin Chinook survival into the analysis.
- f. Compilation of Utilities, Infrastructure, Water Rights Data/Information
 - Infrastructure Limitations TM
 - (a) QC review has been completed and team is addressing comments and hope to have that done by the beginning of March.
 - Water Related Infrastructure and Water Rights TM
 - (a) Team is finishing the draft document and then it will go through QC review in a few weeks and be available for external review around the end of March.
- g. Temperature
 - Temperature Suitability and Water Availability TM
 - (a) Evaluation is ongoing; Team is incorporating collected temperature data and climate data into a model to evaluate thermal gain.
 - (b) At the same time, the Team is working on conveyance pathways for a volitional passageway (natural channel) and other alternatives and determining flow depths/velocities and gradients to allow for a swimway.
 - (c) The thermal gain model will then applied to the conveyance pathways/swimways assuming water from the McCloud is moved into the swimway. The evaluation will evaluate how long water remains in the thermal suitability range as it moves through the channel and any additional water that would need to be added to maintain thermal suitability.
 - (d) Goal is to have results to share at TAG Meeting #3.
 - Data collection update
 - (a) Next data download will occur in late March/early April. Dates are being determined now.

- h. Pacific NW Tour 2025
 - Sent a draft itinerary to co-managers in January; CDFW and NOAA are interested in attending if allowed. Have discussed the tour with the Tribe (Bekah and Chief Sisk).
 - The tour is scheduled to occur the week of May 19th. Logistics are being prepared now and will be shared when available.
2. Biological Data Gaps Update - USGS
- a. Telemetry Study
 - Data download occurred two weeks ago; fish are still moving through the system; small increase in the number of fish found towards the dam, but most of the fish are still in the McCloud Arm of the reservoir.
 - The telemetry system will be left in place until mid-April. Another download will occur in early March and then the system will be removed in mid-April as all the tags will no longer be working due to battery life.
 - 2 fish passed through the dam and made it to the last real time reporting array near the Benecia Bridge. Chris T. suggested that USGS reach out to LSNFH to see if the spillway was open when the 2 fish passed below the dam. Jason will send spillway reports to Caitlin.
 - b. Food web, reservoir ecology study
 - Team is still processing samples from November and expect to have results to share in March.
 - Next field event is tentatively scheduled for early April (gillnetting and Chinook salmon sampling with a fish guide); USGS will coordinate with Bekah to see if any cultural resource specialists want to join the field team.
 - c. Risk Assessment
 - Risk and health assessments are moving forward. There were meetings with CDFW recently to coordinate.
 - An outline of the risk assessment framework and health assessment framework are being prepared and will be shared with the group in Q2 following reviews by CDFW.
4. Passage Feasibility Study Update
- a. TAG 2 conducted on January 22. Study Team editing comparison factors, scoring alternatives, and producing meeting notes.
 - b. Co-managers and DWR to also score the matrix alternatives, meet, and discuss results. Scores will be provided to TAG; Study Team to work on top alternatives.

- c. TAG Meeting #3 planning is underway; scheduled for April 10 (virtual).
5. Other Updates
- a. JSCS is now out of the water as of last Tuesday. Randy is gathering feedback on the season and starting to plan for next season. He wants to have discussions with CDFW and WWT to determine what to do next season to make adjustments based on what was learned this past season. Predation and debris were big issues last season that need to be discussed.
 - b. Inclined Plane Trap update (Chris Townsend): Pacific States, CDFW, and WWT met last week to discuss trap modifications and came up with an approach to expand on capture efficiency and mitigate risk to fish:
 - a. Will make weir panels 50% open space to allow more water to pass and reduce velocities going into the trap.
 - b. Inside trap, will create velocity breaks.
 - c. Changing to a tri-chamber for the live well to allow fry to escape predators (Jason recommended talking to Matt Johnson and Red Bluff office about this approach).
 - d. Bekah mentioned that the Tribe is interested in an in-river trap that can sustain larger flows and capture yearlings. She is planning to set up another meeting to discuss this more.
6. Walk-on topics
- a. None.

Attachment A – Attendees

Name	Organization
John Ferguson	Anchor QEA
Elizabeth Greene	Anchor QEA
Bekah Olstad	WWT
Mike Garello	HDR
Jon Mann	CDFW
Jill Hardiman	USGS
Caitlin Stockwell	USGS
Seth Lawrence	CDFW
Chris Townsend	PSMFC
Lindsay Wood	Watershed Sciences
Jason Roberts	CDFW
Randy Beckwith	DWR
Steve Edmondson	NMFS

Feasibility of Volitional Chinook Salmon Passage at Shasta and Keswick Dams

To: Shasta Volitional Passage Partners

Date: March 5, 2025

From: John Ferguson and Elizabeth Greene, Anchor QEA

Re: March 5, 2025, Coordination Call Notes

The Passage Partners met by conference call on Wednesday, March 5, 2025, from 4:00 p.m. to 5:00 p.m. Attendees are listed in Attachment A.

Summary of Action Items

1. Mike Garello will check to see if the Water Related Infrastructure and Water Rights TM includes water rights on the McCloud River and follow up with Lindsay Wood.
2. John and Elizabeth will check with Noble Hendrix to see if he can easily provide a version of the life cycle model that has a graphical user interface (GUI) that everyone can use to change parameters to see how model outcomes change. Also, Steve wants to ask Noble if information from NOAA on habitat capacity above McCloud Dam can be added to model to see how big a difference it makes.
3. The next coordination meeting will occur on April 2, 2025, at 4 pm.

Meeting Agenda and Discussion

The following agenda items were discussed:

1. Action Items from Previous Meeting (2/5) (notes attached)
 - a. None
1. Physical Data Gaps Update – Anchor and HDR
 - a. LiDAR
 - i. LiDAR task is complete. Coordinating now with Reclamation (Rod Wittler and Jenna Paul) on their scoping of an upcoming LiDAR flight and data collection and what they might be able to collect to augment our project. They will collect terrain data (bathymetry and topography) in Battle Creek, Cow Creek, Stillwater, other Shasta potential fish pathways, McCloud Arm and McCloud River above day bridge. They plan to use the LiDAR data to evaluate habitat in the creeks. They will also collect water surface profiles and discharge on same creeks for

model (e.g., hydrodynamic and hydrologic models) calibration/validation.
Reclamation is starting to assess fish passage above Shasta.

ii. Question during the call: Is Stillwater part of the feasibility study?

(a) Response: Its been included as a potential alternative in the matrix of 50 alternatives, but is not rating high on the list of alts selected by the co-managers.

- b. Barrier Study
 - i. Re-running 2D HEC-RAS with latest LiDAR data. HDR finishing up fish passage protocols (e.g., depth and velocity criteria), which Anchor will then apply to the 2D model results to identify barriers in Cow/Dry Creeks. Once this is done team will meet to discuss results and identify where to focus the field verification efforts.
 - ii. A trip to conduct field verification is being planned for some time within the next month and a half. This will occur once the previous bullet has been completed and barrier sites that need field verification have been identified. Scheduling of the site visit will depend on weather and flow levels needed for access.
 - iii. This is the first step in the process and follow on studies will be identified for future work. This is a multistep process.
- c. Hydrology Study (completed)
 - i. Final version will be posted to the SP Site for everyone to access.
- d. Chinook Salmon Life History Summary Update
 - i. In tech edit now; then CDFW (Matt and Jason) will review, and we'll decide whether CDFW wants the document made available to the public. If so, Anchor will make the document 508 compliant.
- e. Life Cycle Model
 - i. Focusing now on what level of passage is needed to have a sustainable population (Phase 1).
 - ii. Following Phase 1, Noble will work on methods for evaluating how well passage options perform (Phase 2).
 - iii. May use the model to assess upstream passage into Cow Creek to evaluate the sensitivity of population performance to adult turnoff into Cow Creek from the Sacramento River.
 - iv. Will look at effects of future climate conditions based on past work and assumptions about future WY conditions.
- f. Physical Considerations for Construction of a Volitional Swimway at Cow Creek Dry Creek, and the McCloud River TM
 - i. In final tech edit; updating figures; should be issued next week.
- g. Water Related Infrastructure and Water Rights TM

- i. Team is finishing the draft document and then it will go through QC shortly once a few edits are made, issuing in the 1-2 weeks.
 - ii. **Question during the call: What types of water rights are you looking at?**
 - (a) **Response: Team was able to gather RWQCB database for adjudicated water rights and rules from Water Master; HDR has been able to compile the number, quantity, and priority list of water rights.**
 - h. Shasta Head of Reservoir TM
 - i. HDR has drafted compilation of DWR results to date and is conducting senior review.
 - i. Temperature
 - i. Temperature Suitability and Water Availability TM
 - (a) Determining design criteria (depth, velocity, gradient) for a constructed channel, which feeds into thermal gain and water quality/quantity TM.
 - (b) Working on the alignment of the Cow/Dry passageway and source water options, which will then have the thermal gain applied to the source water and volume. Team will evaluate the 3 up/3 down alternatives selected by the co-managers.
 - (c) Goal is to have results to share at TAG Meeting #3.
 - ii. Temperature data collection update
 - (a) Next data download will occur between the end of April and the middle of May. Checking on road access to download what we missed in December on TNC property due to snow.
 - j. Pacific NW Tour 2025
 - i. The tour is scheduled for the week of May 19th. Itinerary sent around to participants who are responsible for their own travel arrangements. Federal participation may be questionable. USGS and HDR are coordinating with project owners and reintroduction experts to finalize activities for each day.
2. Biological Data Gaps Update - USGS
- a. Telemetry Study
 - i. Last week, USGS downloaded the dam sites to see if they are still receiving new fish. Yes, they are receiving new fish at the dam, but its still less than 10% of total release.
 - (a) Released total of 656 fish and 8.5% made it to the dam and 3 fish made it through the dam and to Benecia Bridge. Best assumption is the 3 fish were sucked through the dam and fish were alive because saw them at Benecia Bridge.
 - ii. Team is hoping to travel down at the end of March to retrieve the telemetry gear. However, USGS is currently on travel restriction.

- iii. Tags will die in early April.
 - iv. Analysis to follow and will be shared with the group.
 - b. Food web, reservoir ecology study
 - i. Shelley has been on leave so still processing samples; want to get bulk of samples done in March
 - ii. The next field event is set to occur the first week of April. Focus is on fish distribution in reservoir when the reservoir is thermally mixed. Trying to also get more salmonid samples for pathogen testing.
 - c. Risk Assessment
 - iii. Health assessment write up: hoping to have internal document within the next 2 weeks for internal review.
 - iv. Risk assessment: hoping to have document ready to share in a month or so.
 - v. Reintroduction draft document also being developed.
4. Passage Feasibility Study Update
 - a. Following the TAG 2 meeting in January, the consultant team delivered a scored matrix of potential alternatives to the salmon co-managers and DWR. The group met last week and prioritized the following options:
 - Volitional passage up Cow/Dry and physically connected to Winnemem Waywaket
 - Volitional passage from ACID up the railroad grade and physically connected to Winnemem Waywaket
 - A third option that is important to the State has not been finalized but is under discussion
 - An adult and juvenile CHTR option
 - b. These results will be communicated to the TAG at the TAG 3 meeting; DWR and the consultant team are starting to prepare for and organize TAG 3 (virtual meeting April 10 from 8:30 – noon).
 - c. HDR continues to develop the alignment and routing of the Tribe's preferred option up Cow/Dry creek.
 - d. Team continuing to meet with Reclamation to align the feasibility study report with Reclamation's appraisal process.
5. Other Updates

- a. None.
- 6. Walk-on topics
 - a. None.

Attachment A - Attendees

Name	Organization
John Ferguson	Anchor QEA
Elizabeth Greene	Anchor QEA
Mike Garello	HDR
Jon Mann	CDFW
Jill Hardiman	USGS
Caitlin Stockwell	USGS
Seth Lawrence	CDFW
Lindsay Wood	Watershed Sciences
Steve Edmondson	NMFS
Darin Olsen	
Gary Mulcahy	WWT
Matt Johnson	CDFW

Feasibility of Volitional Chinook Salmon Passage at Shasta and Keswick Dams

To: Shasta Volitional Passage Partners

Date: April 2, 2025

From: John Ferguson and Elizabeth Greene, Anchor QEA

Re: April 2, 2025, Coordination Call Notes

The Passage Partners met by conference call on Wednesday, April 2, 2025, from 4:00 p.m. to 5:00 p.m. Attendees are listed in Attachment A.

Summary of Action Items

1. Anchor will talk to Noble and ask if a table of preliminary results for Phase 1 of the Life Cycle Model can be provided. USGS would like to see it to help with the Risk Assessment.
2. The next coordination meeting will occur on May 7, 2025, at 4 pm.

Meeting Agenda and Discussion

The following agenda items were discussed:

1. Action Items from Previous Meeting (3/5)
 - a. John and Elizabeth have reached out to Noble Hendrix and are waiting to hear back to see if he can easily provide a version of the life cycle model that has a graphical user interface (GUI) that everyone can use to change parameters to see how model outcomes change. Also, Steve Edmondson wants to ask Noble if information from NOAA on habitat capacity above McCloud Dam can be added to model to see how big a difference it makes.
2. Physical Data Gaps Update – Anchor and HDR
 - a. LiDAR
 1. On-going coordination with BOR on LiDAR data collection to support Reintroduction Work
 - a) After TAG Meeting No. 3, Team will provide Rod Whittler plan view concept figures showing the main routes captured by alternatives.
 - b. Barrier Study
 1. Anchor has run the 2D HECRAS with newly collected LiDAR data and needs the depth/velocity criteria to apply to identify potential barriers.

2. HDR is finishing up a memo on the depth and velocity criteria, which Anchor will then apply to the 2D model results to identify barriers in Dry Creek.
- c. Hydrology Study (completed)
 1. The Tech Memo has been finalized. Let us know if you would like a copy.
- d. Chinook Salmon Life History Summary Update
 1. Tech edit is complete and will be sent to CDFW (Jason and Matt) for review within the next week.
- e. Life Cycle Model
 1. Focusing now on what level of passage is needed to have a sustainable population (Phase 1).
 2. Following Phase 1, Noble will work on methods for evaluating how well passage options perform (Phase 2).
 3. Met with the Melanie Cheung and Nann Fangue (UC Davis) to discuss applying the WR Life Cycle Model to determine the number of fish needed from NZ to support a sustainable population.
 - a) Noble will use the WR Life Cycle Model and adjust for timing of when the NZ fish might be migrating in and out of the McCloud. This will be done in conjunction with evaluating the performance of the Tribe's volitional passage alternative.
- f. Physical Considerations for Construction of a Volitional Swimway at Cow Creek Dry Creek, and the McCloud River TM
 1. TM is through QC and figures are being updated, then TM will be finalized.
- g. Water Related Infrastructure and Water Rights TM
 1. In QC review which is expected to be done within the next few weeks.
 2. Spencer confirmed that she received and reviewed the McCloud River Water Rights document that Lindsay Wood sent to us last month. They may need to update the TM after the QC is done.
- h. Shasta Head of Reservoir (JSCS and CHTR) TM
 1. In QC review.
- i. Temperature
 1. Temperature Suitability and Water Availability TM
 - a) TM is under development; working on temperature and flow models that will inform the quantity of water and thermal accumulation in the volitional passage alternative, and will then look at the other alternatives; temperature suitability results to date will be discussed at TAG Meeting No. 3 next week.
 2. Temperature data collection update
 - a) Next data download will occur the week of May 12th, including TNC site. Trying to have a WWT member join the download.

- b) Temperature team met last week to discuss best practices for collecting flow data, which will be implemented starting in May.
 - j. Pacific NW Tour 2025
 - 1. The tour is scheduled to occur the week of May 19th. Itinerary and Logistics sent around to participants who are responsible for their own travel arrangements. Federal participation may be questionable. USGS and HDR are coordinating with project owners and reintroduction experts to finalize activities for each day.
- 3. Biological Data Gaps Update - USGS
 - a. Telemetry Study
 - a. USGS shared preliminary results and arrival of tagged fish at mouth of McCloud Arm was 20% and Shasta Dam was 8% (n=655 tagged fish released).
 - b. Team pulled the receivers and equipment out of the water last week. Final data set will be compiled and the report will be drafted.
 - b. Reintroduction review 60%; draft available around June.
 - c. Food web, reservoir ecology study: on the reservoir right now, setting gill nets in reservoir and McCloud Arm; fishing with a guide to collect more salmonids and taking histology samples and testing for pathogens; zooplankton samples processed and are analyzing scales and will send stable isotopes in for processing soon.
 - c. Risk and Health Assessments: working on framework document that section leads are working in.
- 4. Passage Feasibility Study Update
 - a. Four alternatives have been selected and will be presented in concept at TAG Meeting No. 3 next week (April 10th).
 - a. Alternative 1 – Volitional tributary bypass from Cow Creek to the Winnemem Waywaket
 - b. Alternative 2 – Semi-volitional tributary bypass from ACID Dam to the Winnemem Waywaket via existing railroad grade
 - c. Alternative 3 – Semi-volitional passage in Nomtipom Waywaket over Keswick and Shasta Dams to the Winnemem Waywaket
 - d. Alternative 4 – Trap and haul facility at the future Livingston Stone National Fish Hatchery site
 - b. Next steps include receiving feedback during the TAG meeting next week, finalizing the alternatives, then completing the evaluation of alternatives and comparison to the trap and haul alternative by October 2025.

5. Other Updates

- a. JSCS pilot study is shifting gears to collecting fish in river in 2025. Discussions are on-going for what the in-river sampling gear will be and how it will be configured. DWR is working on the 2024 summary report.
- b. The end of May is the Winnemem Wintu Tribe's Run4Salmon prayer journey.

Attachment A - Attendees

Name	Organization
John Ferguson	Anchor QEA
Elizabeth Greene	Anchor QEA
Mike Garello	HDR
Jon Mann	CDFW
Toby Kock	USGS
Claire Couch	USGS
Randy Beckwith	DWR
Jill Hardiman	USGS
Seth Lawrence	CDFW
Darin Olsen	PSMFC
Gary Mulcahy	WWT
Lindsay Wood	WSE
Melanie Cheung	WWT

Feasibility of Volitional Chinook Salmon Passage at Shasta and Keswick Dams

To: Shasta Volitional Passage Partners

Date: May 8, 2025

From: John Ferguson and Elizabeth Greene, Anchor QEA

Re: May 7, 2025, Coordination Call Notes

The Passage Partners met by conference call on Wednesday, May 7, 2025, from 4:00 p.m. to 5:00 p.m. Attendees are listed in Attachment A.

Summary of Action Items

1. Anchor will talk to Noble and ask if a table of preliminary results for Phase 1 of the Life Cycle Model can be provided. USGS would like to see it to help with the Risk Assessment. Update for May 7 meeting: Noble will be producing results of the Phase 1 modeling in a month or so and those will be available for USGS.
2. The next coordination meeting will be on June 4, 2025, at 4 pm.

Meeting Agenda and Discussion

The following agenda items were discussed:

1. Action Items from Previous Meeting (4/2)
 - a. John and Elizabeth have reached out to Noble Hendrix and are waiting to hear back to see if he can easily provide a version of the life cycle model that has a graphical user interface (GUI) that everyone can use to change parameters to see how model outcomes change. Also, Steve Edmondson wants to ask Noble if information from NOAA on habitat capacity above McCloud Dam can be added to model to see how big a difference it makes.
2. Physical Data Gaps Update – Anchor and HDR
 - a. LiDAR
 1. Elizabeth provided sketches of the following main routes captured by alternatives to Rod Whittler after TAG Meeting No. 3:
 - a) Cow/Little Cow/Dry Creek
 - b) ACID to RR grade
 - c) Sac River up to Keswick/Shasta Dams

No feedback from Reclamation so far.

- Bekah had a question about sufficiency of the LiDAR data. Data in the McCloud River could not be collected due to the configuration of the channel. A helicopter would be needed to collect that data or field based surveys, which was too expensive for the existing scope. It would be helpful at some point to collect that data to be able to advance the design of any needed facilities at Bollibokka. This will not be completed as part of the current Physical Data Gaps scope of work.

b. Barrier Study

1. HDR finished the fish passage protocols (e.g., depth and velocity criteria), which Anchor needs to apply to the 2D model results to identify potential barriers in Cow/Dry Creeks.
2. Greg talked to Mike about assumptions downstream of Dry Creek. Is there a minimum flow we care about? He'll assume 50 cfs will be the augmented flow plus inflow for September, which will represent that low flow to model how barriers perform. The model has been set up, run, and will output in GIS for interpretation and to identify areas where the criteria are violated. In addition to velocity and depth, he'll be assessing the angle of fall at locations and what fish ascend. The model runs will not take long.
3. Field verification trip is scheduled to occur on early June.

c. Hydrology Study (completed)

1. The Tech Memo has been finalized. Let us know if you would like a copy.

d. Chinook Salmon Life History Summary Update

1. CDFW review is complete, and Anchor is addressing comments and finalizing.
2. Once that is complete it will go through a technical edit to make the document 508 compliant and allow it to be available to the public.
 - Dessa had a question about where the reports would be housed and if they will be available for use? CDFW will develop a website to post the reports. Bekah added that the Tribe will want to add TEK statements to the documents before they get distributed widely.
 - Anchor QEA to send the report to Dessa and Bekah to add on to prior to it going to 508 compliant review.

e. Life Cycle Model

1. Focusing now on what level of passage is needed to have a sustainable population (Phase 1). Variability due to WY types comes to play in the spawner-to-collection at RBDD component of the life cycle, based on fry and smolts counts starting in late September and going through February. Noble is focusing on this metric because that is where we'd expect to see benefits

from reintroduction. The null hypothesis is to have reintroduction match what is currently being produced by the system at RBDD, as the lower bound of success (i.e., reintroduction does no harm). Based on this approach, collection efficiency in the McCloud River in good water years doesn't need to be as high, so Noble is thinking this is a better bar to compare the analysis to. Looking at historical temperature and hydrology data, and have modeled data based on CalSIM runs for the 2019 BiOp (baseline for operations). Should have results in a month.

2. Following Phase 1, Noble will work on methods for evaluating how well passage options perform (Phase 2). Anchor to set up routine check-in calls between Anchor, HDR, and Noble going forward to discuss Phase 2 analysis.
3. Discussions have taken place on applying the WR Life Cycle Model to determine the number of fish needed from New Zealand to support a sustainable population. This effort would fit under Phase 2, as a side scenario dealing with current conditions. It becomes a use case that evaluates what can be accomplished with eggs being supplied to the watershed over a 10-year period under future scenarios.
 - a) Noble will use the WR Life Cycle Model and adjust for timing of when the NZ fish might be migrating in and out of the McCloud. This will be done in conjunction with evaluating the performance of the Tribe's volitional passage alternative.
- f. Physical Considerations for Construction of a Volitional Swimway at Cow Creek Dry Creek, and the McCloud River TM
 1. TM QC completed and should be finished in the next week.
- g. Water Related Infrastructure and Water Rights TM
 1. Through QC review, addressing comments and figure revisions. After that HDR will conduct a back check (this week) and issue the TM.
- h. Shasta Head of Reservoir (JSCS and CHTR) TM
 1. The TM will be comprised of two short memoranda. A JSCS memo has been drafted and is waiting for Mike to review. A CHTR review memo is under development. Kelly is collating information in previous documents on CHTR. The memo is close to going to QC.
- i. Temperature
 1. Temperature Suitability and Water Availability TM
 - a) HDR is working on both aspects of the TM, thermal gain and water quantity. A draft will be ready for internal review by the end of next week.

2. Temperature data collection update
 - a) Next data download will occur as follows:
 1. Monday 5/12 - Starting at 8am, the team will download data from 1A then 2A, 2B, 3A, and finally 3B.
 2. Tuesday 5/13 - McCloud site downloads will occur starting at the 5A site.
 - j. Pacific NW Tour 2025
 1. The tour is scheduled for the week of May 19th. Itinerary and logistics sent around to participants; federal participation may be questionable. USGS and HDR are coordinating with project owners and reintroduction experts to finalize activities for each day.
3. Biological Data Gaps Update - USGS
 - a. Working on five draft reports to summarize the studies being worked on.
 - b. Telemetry Study
 - a. Season completed. USGS shared preliminary results and arrival of study fish at Shasta Dam was 10%. Some fish survived to downstream of Shasta Dam.
 - b. First detection at Gate 1; fish were passing downstream past the JSCS during operation. The structure was not holding fish up.
 - c. 34% survival in first reach; 80% survival in 2nd reach; 78% survival in reaches 3 and 5. Only 10% made it to the dam.
 - d. Downstream migration behavior and survival of juvenile Chinook salmon
 - a. TM available in July
 - b. Will this only contain this year's results or also include previous results in 2017?
 - a. Will include previous results as well as this year's results
 - b. Reintroduction review: Progressing on the manuscript and a draft should be available around July.
 - a. Review of Pacific salmon reintroduction
 - a. Report available in mid-July
 - c. Food web, reservoir ecology study: Samples collected again in early April, processing the samples now.
 - a. 3 seasons of fish sampling (Sep, Nov, Apr)
 - b. Hydroacoustic surveys to estimate abundance of forage fish (shad)
 - c. Monthly zooplankton tows
 - d. Shasta reservoir food web and implications for reintroduction report is under development
- c. Risk and Health Assessments: Working on a framework document the section leads are working in:

- a. Pathogen risk and testing considerations for NZ Chinook salmon report
 - a. By the end of the month
 - b. Considers 29 potential pathogens of concern
 - c. Ranks risk of transport in disinfected eggs
 - d. Alternatives for biosecurity/testing to reduce risk
 - b. Structured risk assessment for salmon reintroduction alternatives report
 - a. Synthesize risks and benefits associated with:
 - a. Disease
 - b. Genetics/evolution
 - c. Demographics
 - d. Ecological
 - e. Socio-economic
 - b. Scenarios
 - a. Donor sources for SRWRC, Nur
 - b. Passage—volitional, trap-and-haul
 - c. Will be prepared in summer with document ready by September
4. Passage Feasibility Study Update
- a. Four alternatives have been selected:
 - a. Alternative 1 – Volitional tributary bypass from Cow Creek to the Winnemem Waywaket
 - b. Alternative 2 – Semi-volitional tributary bypass from ACID Dam to the Winnemem Waywaket via existing railroad grade
 - c. Alternative 3 – Semi-volitional passage in Nomtipom Waywaket over Keswick and Shasta Dams to the Winnemem Waywaket
 - d. Alternative 4 – Trap and haul facility at the future Livingston Stone National Fish Hatchery site
 - b. Work continues on all four alternatives.
 - a. Alternative descriptions will have narratives, description of elements, concept drawings (plan view and cross sections), operational factors, constructability, consistency with the biological factors, costs, operation and maintenance activities and costs
 - c. Alternative 2 is being discussed within California agencies; will stay in the mix of alternatives but de-emphasized regarding further work on it.

- d. TAG 4 schedule is being discussed – switching to first week in November (11/7, 12 to 4 pm) to receive comments from the TAG on the draft Feasibility Study report that will come out on October 15, 2025.
 - e. The Consultant Team and DWR are laying out schedules and timelines for all remaining deliverables.
5. Other Updates
- a. JSCS?
 - a. DWR is radically changing the JSCS so it can move upriver and catch more fish this year.
 - b. Installation will occur in September.
 - b. RSTs (2) are in right now, but no salmon have been collected.
 - c. Tribe may be doing some traditional collection of fish with baskets.

Attachment A – Attendees

Name	Organization
John Ferguson	Anchor QEA
Elizabeth Greene	Anchor QEA
Mike Garello	HDR
Jon Mann	CDFW
Toby Kock	USGS
Claire Couch	USGS
Jason Roberts	CDFW
Dessa Drake	ICO
Bekah Olstad	WWT
Seth Lawrence	CDFW
Darin Olson	PSMFC
Lindsay Wood	WSE

Feasibility of Volitional Chinook Salmon Passage at Shasta and Keswick Dams

To: Shasta Volitional Passage Partners

Date: June 4, 2025

From: John Ferguson and Elizabeth Greene, Anchor QEA

Re: June 4, 2025, Coordination Call Notes

The Passage Partners met by conference call on Wednesday, June 4, 2025, from 4:00 p.m. to 5:00 p.m. Attendees are listed in Attachment A.

Summary of Action Items

1. No new action items.
2. The next coordination meeting will be on July 2, 2025, at 4 pm.

Meeting Agenda and Discussion

The following agenda items were discussed:

1. Action Items from Previous Meeting (5/7)
 - a. Noble will be producing results of the Phase 1 lifecycle modeling (needed collection efficiencies) in a month or so and those will be available for USGS to use in their studies.
2. Physical Data Gaps Update – Anchor and HDR
 - a. LiDAR
 1. No new updates.
 - b. Barrier Study
 1. Discussed results of 2D HEC-RAS model with depth/velocity criteria applied and identify where to focus the field verification efforts.
 - a) HDR provided criteria memo to Anchor previously
 - b) Flows used in the modeling effort are between 50 cfs and 200 cfs
 - c) Ran 50 cfs down channel and results indicate there are a lot of places in lower basin that are potential barriers at that low flow
 - d) Plan is to run 80 cfs, 120 cfs, 160 cfs, and 200 cfs to determine the lowest flow needed to allow fish to migrate up the pathway

- e) We will also look at slope criteria for a natural channel (in HDR memo as "natural barrier gradient")
- f) Using sept inflows from tribs for low flow limitations; will also look at a biologically significant time period for inflows from tribs in model
- 2. Field verification will occur next week (June 10th and 11th) in the reach from Dry Creek downstream of Jones Valley storage area downstream through the canyon to East Dry Creek.
- c. Hydrology Study (completed)
 - 1. The Tech Memo has been finalized. Let us know if you would like a copy.
- d. Chinook Salmon Life History Summary Update
 - 1. CDFW review is complete, and Anchor is addressing comments and finalizing.
 - 2. Once that is complete it will go through a technical edit to make the document 508 compliant and allow it to be available to the public.
 - 3. Anchor will coordinate with Bekah and Dessa on how best to add TEK statements to this document.
- e. Life Cycle Model
 - 1. Status of Phase 1 (what collection efficiency is needed to support a sustainable population in the McCloud River)
 - a) Noble has been working on the NMFS WR LCM so we can use it for Phase 1 evaluation; this provides better existing conditions and more control over the temperature mortality
 - b) Should have Draft Phase 1 memo next week for internal team review
 - 2. Phase 2
 - a) Alternatives are identified for FS, so now we need to sit down with Consultant Team to agree on assumptions and input parameters
 - 3. NZ evaluation: Noble will be helping Melanie and team on a separate modeling effort to inform the rematriation of NZ Nur.
- f. Physical Considerations for Construction of a Volitional Swimway at Cow Creek Dry Creek, and the McCloud River TM
 - 1. Through tech edit and final draft will be posted to SP for internal team to review.
- g. Water Related Infrastructure and Water Rights TM
 - 1. In tech edit (final step); will be available soon for internal team review on SP site.
- h. Shasta Head of Reservoir (JSCS and CHTR) TM
 - 1. Under senior review, then QC, then tech edit, then internal team review
- i. Temperature
 - 1. Temperature Suitability and Water Availability TM

- a) Going through internal HDR QA/QC process, then will be available for internal team review.
 - b) This tech memo is specific to each alternative rather than general as originally planned, which will be way more helpful.
2. Temperature data collection update
- a) Last data download effort the week of May 12th had some challenges:
 - 1. Extremely high flows in April led to the loss of multiple temp sensors
 - 2. Swiffer meter was not working
 - b) Barrier study field team will collect flow data the week of June 9th and possibly install new temperature loggers in locations where they were lost in April

j. Pacific NW Tour 2025

- 1. Report out from May tour (Week of May19th)—tour is valuable in that people get to see various fish passage solutions and talk to practitioners that have developed the solutions. Overall, it was good to see the variety of solutions to identify ones that people like or do not like as we move through the feasibility study.
 - a) Cushman Dam
 - 1. Fish elevator for adults and juveniles
 - 2. Conservation hatchery that started in 2016
 - b) Cle Elum Dam (earthen dam)
 - 1. Helix juvenile fish passage facility (volitional)
 - 2. 6 multi level exits that address surface water level fluctuations in the reservoir by 80 feet
 - c) Cooper Bridge
 - 1. Heard about Sockeye Reintroduction efforts where they bring fish from the Wenatchee River and Okanogan River and put into the Cle Elum River. Also heard about coho reintroduction efforts. The efforts have been going on for 15-20 years so important to hear about their experiences.
 - d) Roza Dam (Mainstem Yakima River diversion dam)
 - 1. Fish passage facility run by Yakama Nation and funded by BOR
 - e) Nelson Dam
 - 1. Nature like fishway (dam has been removed)
 - 2. Dam was in place to back up water for City diversion; created a concrete sluiceway and Obermeyer gate to back up water for diversion of City of Yakima water supply

1. Good example for what could be constructed in the McCloud River to guide fish downstream and into the constructed channel (nature-like)
 3. Floodplain reconnectedness and restoration
 - f) Prosser Dam
 1. Yakama Nation reintroduction efforts
 1. Summer chinook salmon, coho salmon
 2. Lamprey relocation and rearing efforts
 3. Predator control efforts
 - g) Jon's key takeaway—important to see the scale and scope of the Yakama Nation's fisheries programs and reintroduction efforts.
3. Biological Data Gaps Update - USGS
- a. Telemetry Study
 - a. Working on pulling the manuscript together for all three studies (2 from 2017 and 1 from 2024)
 - a. Almost no fish are making it to Shasta Dam
 - b. Those that do make it to Shasta Dam have different patterns that are highlighted.
 - c. Probability of moving through the arm and getting through the reservoir.
 - d. Draft manuscript available in a few months.
 - b. Reintroduction review
 - a. Working on this and incorporating dam removal information and fish passage information.
 - b. Adding summary information from PNW to show biological responses to reintroduction efforts. All examples are showing increases in adults coming back.
 - c. Food web, reservoir ecology study
 - a. Obtained more fish samples in April and more zooplankton tows from CDFW; working up these samples to incorporate into the reservoir study.
 - c. Risk and Health Assessments
 - a. Pathogen Risk Assessment:
 - a. Evaluation of pathogen risks for reintroduction NZ salmon to CA. Evaluated 29 pathogens based on criteria and ranked as high/mod/negligible risk.
 - b. Reviewed biosecurity testing measures.
 - c. Sent draft document sent to WWT in early May. This will be turned into a manuscript.
 - b. Risk Assessment for reintroduced fish (donor pops to existing pops)
 - a. Solid outline and co authors starting to work on this now. Hoping to have a draft by late summer.

- c. Gary—where do the 29 pathogens come from? There are only 22 pathogens in NZ.
 - a. A lot of pathogen testing in NZ is done by private companies and results are not publicly available to evaluate, so included the potential to introduce all 29 pathogens that might be present. Identified those that may be a high risk (only those pathogens that do exist).
 - b. Melanie has been testing pathogens on NZ fish for a year now, which will be used to document existing pathogens in NZ.
 - c. Jan Lovy (co-author) spent several weeks in NZ with Melanie and has worked closely with her on this document. Results of the paper conclude that the recommendations of CDFW are too stringent and too conservative.

- 4. Passage Feasibility Study Update
 - a. June 25th: Memo focused on detailed descriptions of the 4 alternatives; illustrations, narratives, constructability, biological performance
 - a. We will also provide this to Reclamation and will set up a meeting on 6/26 to discuss.
 - b. Team wants Reclamation input on Alts 3 and 4; concerns on dam safety, geotech, routings, etc. We want to incorporate this information into the FS.
 - b. The next deliverable will be a cost table (July 30th, John F.'s birthday!).
 - c. TAG 4 moved to November 7th
 - a. Draft reports come out on Oct 15th so wanted TAG to have chance to review prior to the TAG 4 meeting.
 - b. Moved to Friday so Gary could attend.
 - d. Schedule:
 - a. Draft Cost Table (due 7/30)
 - b. Early draft FS report pieces due
 - a. August 29th: Early Draft Background Compendium and Design Criteria TM to co-managers and DWR
 - a. Will include all TMs from Physical Data Gaps Studies
 - b. September 17th: Early Draft Alternatives Formulation and Evaluation Report (Appraisal Report) to co-managers and DWR
 - c. Draft FS report due October 15 to TAG:
 - a. Draft Alternatives Formulation and Evaluation Report (Appraisal Report)
 - b. Draft Background Compendium and Design Criteria TM

- 5. Other Updates
 - a. Two jacks from the McCloud River returned so far this year.

- b. Seth: Inclined Plane Trap modifications are in the works and will be installed in mid-September
- c. Randy: Rebuilding the JSCS to try and fish in higher flows; will use louvers (adjustable 0 to 5 feet of water) for guides rather than nets; new smaller trap; fabrication will occur within next few weeks

Attachment A – Attendees

Name	Organization
John Ferguson	Anchor QEA
Elizabeth Greene	Anchor QEA
Mike Garello	HDR
Jon Mann	CDFW
Toby Kock	USGS
Claire Couch	USGS
Caitlyn Stockwell	USGS
Gary Mulcahy	WWT
Randy Beckwith	DWR
Seth Lawrence	CDFW
Darin Olson	PSMFC
Lindsay Wood	WSE

Feasibility of Volitional Chinook Salmon Passage at Shasta and Keswick Dams

To: Shasta Volitional Passage Partners

Date: July 9, 2025

From: John Ferguson and Elizabeth Greene, Anchor QEA

Re: July 9, 2025, Coordination Call Notes

The Passage Partners met by conference call on Wednesday, July 9, 2025, from 3:00 p.m. to 4:00 p.m. Attendees are listed in Attachment A.

Summary of Action Items

1. No new action items.
2. The next coordination meeting will be on **August 6, 2025, at 3 pm.**

Meeting Agenda and Discussion

The following agenda items were discussed:

1. Deliverables Schedule:
 - a. Alternatives Description TM: by end of the week
 - b. Cost Table: July 30th
 - c. Background Compendium and Design Criteria TM: TAG review October 15th to November 14th; final version due to CDFW by December 31, 2025
 - d. Alternatives Formulation and Evaluation Report (Appraisal Report): TAG review October 15th – November 14th; final version due to CDFW by December 31, 2025
 - e. TAG Meeting #4: November 7th
2. Physical Barriers Study Presentation and Discussion
 - a. Greg Stewart went through the attached presentation highlighting the barrier study and preliminary results for the natural barriers.
 - b. The Physical Barriers Technical Memorandum will provide details on the background, methods, results, and discussion of the evaluation and will also address the following general questions that came up during the call:

1. Key input parameters and datasets used in the 2-D HEC-RAS model
2. An evaluation and discussion of juvenile fish passage
3. Consideration of the timing of adult and juvenile winter-run and spring-run Chinook salmon migrations
4. Discussion of both natural and man-made barriers

Attachment A – Attendees

Name	Organization
Elizabeth Greene	Anchor QEA
Greg Stewart	Anchor QEA
Jon Mann	CDFW
Jason Roberts	CDFW
Claire Couch	USGS
Kevin Marr	DWR
Gary Mulcahy	WWT
Randy Beckwith	DWR
Amy Bailey	DWR
Darin Olson	PSMFC
Lindsay Wood	WSE