Fish Workgroup Agenda 2023-3-1 - NOTES

Time: 9:30 – 3:30
Location: TRRP Conference Room Weaverville

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Desired Outcomes:

- Identify new coordinator for Fish Work Group
- Develop input for solicitation for limiting factors analysis
- Provide any input for WY 2023 flow scheduling after April 15

Please Review:

- Please arrive at the meeting with at least one recommended candidate for the coordinator position for your respective agency.
- Please review the Draft Science Plan (with regard to the Limiting Factors Analysis
- Please review Hamilton and Murphy 2018

Fish Workgroup Agenda:

Time	Agenda Item	Presenter
9:30	Introductions, agenda review, and desired outcomes *Participant: Kyle De Juilio, Todd Buxton, Chad Martel, Chris Laskodi, Eric Wiseman, Bill Pinnix, Ken Lindke, Karl Seitz, Taylor Daley* *No Changes to Agenda*	DeJuilio
9:40	Update on WY 2023 Winter Flow Variability Project implementation *Implementing new flow management began February 15 flow variability project. Ken coordinator on flow work group this year* *KL: Water year totals still below normal for now.* *Snow pack is slightly higher than normal* *Median forecast used in April to determine water year*	Lindke and others

	Report expected on 8th for B120 90% exceedance forecast used to set elevated baseflow period *Snow surveys may be delayed for B120 because of storms* *Feb B120 90% forecast was : 945 kaf (Dry)* *60 Kaf elevated baseflow 15 feb -15 April was scheduled and that Flow schedule is available on TRRP website* *Release this year looked similar to natural flow* *KD: increased release from Lewiston in January was due to water from tributaries flowing into Lewiston lake being released downriver, because Whiskeytown had uncontrolled spillover.* *EW: excited about winter flows this year* *KD: asked for input for flow workgroup from fish group on implementation of water year volumes After April 15 (release remaining volume to meet other objectives)* *BP: has there been assessment of delta's for geomorphic vs other obj. priority* *TB: too early to answer BP question* *If a normal March 90% forecast resulted in an addition 60 kaf of releases, it could be enough to mobilize some delta deposits* *BP: request information on geomorphic objectives and gravel augmentation?* *TB: working on plan also should include physical workgroup* *TB: Gravel aug EA is in public review and should procede as if additional sites are available.* *Cableway on hold* *KD: riparian objectives - consistent drought and lack of scour 2020 willow cohort of seedlings escaped ability to scour not susceptible to scour. Could have in the low reach if piggyback portion if synchronization flow part of winter flow variability project had been implemented and flows had achieved 14,000 cfs. Root depth enough to survive 11000 release. 2021 cohort still susceptible. Temp synthesis (in draft) suggestion that flows below 1500 cfs by mid-May has beneficial effects for growing juvenile salmon. Get down to modest flow by mid to late May.* *TB: ROD 450 cfs avg baseflow in summer would it be too warm if it went below for a certain point of the day?*	

	KD: not sure if temp would be a problem groundwater could have a net benefit *TB: FP thoughts on when diurnal flow should start and end on the calendar?* *KD: equinox to solstice might make sense march 21 – June 21 time period of snow melt. Mimic snow hydrograph even if there is not snow.* *TB: CVO wants to limit diurnal flows to those below 3000 cfs. Is there any way to improve it?* ***Recommendation for flow scheduling after April 15:*** ***1. Achieve flows below 1500 cfs by mid to late May and reach baseflow by mid to late June, to improve conditions for juvenile growth and not delay outmigration*** ***2. Implement diurnal fluctuations between March 21 and June 21 for all flows where it is possible***	
10:00	Update on 2022 Adult returns and 2023 Chinook abundance forecast *KL: overfished status for 4-5 years* *Projection report not completed yet* *CL: PMFC meeting this week and then in April* *KL: Heard Sacramento returns worse than Klamath. Jack return was poor in 2022 and adult return was below projected escapement. Likely closures of fisheries in California as ocean abundance is expected to be low*	Lindke
10:30	Select a new workgroup coordinator *The group selected Kyle De Juilio as the coordinator for the next calendar year*	DeJuilio
11:00	*Update on ongoing monitoring and research projects on the Trinity River related to fish production and fish habitat (requested due to a number of studies that have been funded through outside funding sources)* *Ongoing fish related monitoring and research projects:* *Updates were provided for the following projects. Please contact the appropriate agencies for details* *Screw traps (USFWS, HVT, Yurok)* *Weirs (CDFW, HVT, Yurok)*	DeJuilio / Group

Harvest Monitoring (CDFW, HVT, Yurok)

Invertebrate forage response to hydrologic disturbance (Yurok, Cal Poly Humboldt)

- *Targets extended inundation and scouring*
- *CL: Colonize newly inundated flood planes studying last several months through April until high flow events.*
- *KD: Hoping to link Erik Peterson's algae data. Has been monitoring algae prevalence and species composition monthly for last couple years. Report from 1st year.*
- *TB: 3D flow model test on same areas CL is monitoring for inverts. Link flow patterns and attributes (DO main param) to species in subsurface environment.*

2-D temp model validation (Yurok)

Bioenergetics compared to Capacity (USFWS, HVT, Yurok)

- *Bioenergetics compared to capacity*
- *Utilize tool developed by naman et. al habitat species criteria curve represents bioenergetic benefit based on depth velocity temp and food*
- *Create spatial maps*
- *Use fry density data*
- *Compare predicted and observed also looking at combining models (capacity and bioenergetics model)*

Telemetry Survival Study (HVT, USGS, Karuk, Yurok)

- *Funded by BOR pilot study last year. This year first year of collaborative efforts. 250 juv chinook release from pear tree trap. Tracked to trap to mouth. Looking at survival and migration rate in different reaches. Realease 1600 fish a year from 5 locations and tracking for longer. Last year tracked for two months. For whole basin. 400 per site.*
- *Recievers at bridge downstream of hatchery, restoration reach, Doug citty camp, junction city*

Chinook Egg survival study (HVT, CDFW, Yurok)

- *Create artificial redds and inject eggs. Taking place this fall in upper reaches of TR*

Disease monitoring on the Klamath (USFWS, OSU, Yurok)

Carcass augmentation (Yurok)

Offsite releases of Coho (YT stream and HVT hatchery)

Emigration rate analysis (coho) (HVT)

Pool Stratification Study (USFWS, Yurok, CDFW, BOR)

	Lewiston Reservoir Study (BOR) *RBM-10 upgrade (BOR, USFWS)* - *Use HECRAS instead of geometries* *Lamprey Passage study (HVT, Cal Poly Humboldt)* - *test how well lamprey can move along different substrates with natural growth.* *Hyporheic flow study (TRRP, Denver TSC, HSU, O of I, USFWS)* - *See conversation in invertebrate study* *Algae monitoring (TRRP)* - *See conversation in invertebrate study*	
12:00	Lunch	
1:00	*Develop lifecycle conceptual model, identify drivers of production, identify associated available data and gaps.* *James Lee - Limiting factors analysis. Want input on scope of work. TMC on board. High priority* *Can use national fish and wildlife foundation contract to assemble panel of experts for study plan/ Goes through programmatic review and the implemented. Expedited through NFWF.* *Science Plan and Murphey 2018 discussion* *Key uncertainties with channel form, nutrient flows, temp regimes, fish production, and effective of management actions at recovery* *What's limiting productivity of system overall?* *Complete by 2025* *Phase three 10 years* *Uncertainties unlikely to change in future* *BP- would help to have a conceptual model layout out* *Looking for fish sinks* *Need more data for the Klamath* *When we get results think about how they apply to system as a whole and not just salmon*	Group

	CL: NOAA sail model method in central valley for delta smelt and other species. Might have useful template. Each life stage has its ow conceptual model that varies by location. *Only 3 weeks so finish providing input* *Need to have scope ready for TMZ to approve in June* *BP: leans toward simpler model but not opposed to more complex down road if needed* *TB: likes detailed but simple* *KJ: leans towards simpler model* *CL: Model Ken put together more complicated model then sail model* *Drivers – predation, harvest, disease, pre-spawn mort* *Made changes to model – Ken volunteered to continue to make complete conceptual model.* ***Input to IDT sub-committee***: ***1. Limiting factors analysis should be for the aggregate Chinook Salmon stock*** ***2. Iterative interaction by the consultants with the TRRP is a benefit and could be directed through the Fish workgroup. Potentially a kick-off meeting with the consultants, Fish workgroup, and IDT (similar to Phase II review team, IDT, and Design Team meeting)*** 3. ***The Fish workgroup would like to put forward a straw man conceptual model in the solicitation for proposals.*** 4. ***As part of the SOW, The conceptual model put forward by the Fish Workgroup should be further developed, potentially using the SAIL methodology (Wendell 2017) used on the Sacramento and Klamath for environmental permitting purposes***	
3:30	Adjourn	