From: Michelle Havey <mhavey@anchorqea.com>
Sent: Tuesday, May 2, 2017 5:13 PM
To: Garwin Yip - NOAA Federal
Subject: RE: My chicken scratch from Shasta workshop #2

Thanks Garwin – Jeff said he captured everyone's name (except maybe 1) and is going to send me the list and the scan of this morning's sign-in sheet tomorrow morning. It was nice meeting you and I look forward to the next workshop!

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Managing Fisheries Biologist

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From: Garwin Yip - NOAA Federal [mailto:garwin.yip@noaa.gov]
Sent: Tuesday, May 2, 2017 3:59 PM
To: Michelle Havey <mhavey@anchorqea.com>
Subject: My chicken scratch from Shasta workshop #2

Eric Poncelet (Facilitator)
Jeff Rieker (BOR)
Garwin Yip (NOAA)
Michelle Havey (Anchor QEA-Notetaker)
Pablo Arroyave (BOR)
Christina Durham (NOAA)
Brycen Swart (NOAA)
Federico Barrajas (BOR)
Lewis Bair (RD 108)
Todd Manley (NCWA)
Josh Israel (BOR)
Ron MILLIGAN (BOR)
Steven handy (Redding Electric)
Nancy Parker (BOR)
Mike ripe
Craig addley (Cardno)

Anselmo lumber
Paul Olsted
Eric leaderman
Jeff Sutton (TCCA)
Ara Azarhian
Don baker
Lee backfield (MBK Engineers)
Ann quitter
Morry query
Allison SWC
Chuck Hanson (Hanson Environmental)
Michelle Banonis (BOR)
Allison (Friant)
Dave mooney (BOR)
James Gilbert
Patti Idlof (BOR)
Eric Danner (NOAA)
Miles Daniels (NOAA)
Amman Danielson (WAPA)
Craig Anderson (USFWS)
Jason Roberts (DFW)
Carl Wilcox (CDFW)
Frances Brewster (Santa Clara Water District)
David Guy (NCWA)
Thad Bettner (GCID)
Jon Rubin
Sheila Greene (Westlands Water District)
Tom Boardman
Marcus (City of Folsom)
Doug Obegi (NRDC)
Deanna Serena (Contra Costa Water District)
John McManus

Q&A from first presentation on 2017 pilot study:
Lewis Bair (RD 108)--

-- Have we looked at the past 20 years to see how many years we would've met this type of management
-- How will we monitor and determine success of the pilot? Track 53 F DAT vs. 55 7DADM vs 56 DAT
Lee (MBK)--EOS storages?
Jeff Sutton--Correspondence
Ara Azharian--Monitoring: Is part of the 53 DAT to test surrogate for 55 F 7DADM
-- CCR or downstream redd--may result in a big water cost. Will it be part of the monitoring? Yes
-- Offramp if significant impacts. What is "significant?" We shouldn't see any this year
-- Modeling shows high likelihood of success. What are we trying to learn? Would it be applicable to the years where we have the biggest challenges?
Steven Handy (Redding Electric)
-- Were we able to meet these types of targets historically?
-- Lines of evidence for changing temps and metric?
    ++ (1) EPA (2003), (2) LOBO review, and (3) SWFSC modeling.
    ++ Brycen's enclosure 3 from our 1/19/2017 letter
Paul Olsted: How will Reclamation account for this water? For this year, likely no additional water necessary
Francis Brewster: How will we measure biological effect? Really an operational study
Craig Addley (Cardno): Biology is not very settled. Needs to be more biological modeling/monitoring. Could do lab or in the field. Hatchery eggs in the field. Are the eggs hatching? Early stages more sensitive than later stages. Emerging fry are very sensitive to temperatures. Too much water wasted in the early part, not enough cold water in the latter part. More lab and field work.
-- Christina's comment: We should get together to get the data that Craig is talking about.
Chuck Hanson--Biological monitoring. Biological modeling is valuable as a tool, but still in developmental stage. Shouldn't rely on modeling alone. In high flows and high turbidity, can we effectively detect redds and carcasses, and what do we need to get in place.

-- Jason's response: Dave Vogel and others investigate redd surveys and carcass surveys protocols and agree that it's the best. Jason offered for Chuck to get ahold of him to chat.
Ara Azahrian
-- biological modeling. What plans to improve RBDD RST monitoring?
-- 2016 was a pilot to the pilot. Will there be a report? Addressed at the next PPT.
Jeff Sutton: Other ways to help so it doesn't break the CVP? We have big data gaps, for example, RBDD RST.
-- Jason Roberts: We should make sure USFWS is at meetings if were going to talk about the USFWS RST, as he thought all questions have been addressed about the USFWS RST.
-- Brycen: SAIL effort and publication.

Q&A from 2nd presentation on system-wide analysis:
Jeff Sutton--
-- Biological objectives: How to verify: Came from RBDD RST
-- Impacts to other things: will NEPA be conducted: Current NEPA document. If significant, what bin? Maybe ROC on LTO
Ara Azharian--Where do the spring and fall storage targets come from:
-- Garwin: 1/19/2017 enclosure 3, historical analysis
-- Jeff R: March detailed response
Ara: Calsim analysis: What does "feasibility" mean?
-- Jeff R: Does Calsim indicate that the spring targets and restrictions can even be met?
?? If targets and restrictions indicates can be met, regardless of systemwide effects?
-- Jeff R: Gets to the next questions, which is what are the system-wide impacts.
Lee--spring storage and flow restrictions will always be in place, given the numbers.
Frances Brewster--Seems to her that we're focused on RBDD RST. We need to do a better job with monitoring.
-- Jason Roberts: Fish agencies and NCWA discussed RST closer to spawning grounds. Concluded not necessarily the right thing to do. Either count the fish to death, or lots of subsampling, which is the same concern as the RBDD RST.

-- Lewis Bair: Should have another chat with the biologists. Frustrating that the agencies that would permit the additional take is the same agency that regulates for WR.
-- Josh Israel: Temp gradient that we're talking about studying is similar to salinity gradient for DS. 18 months and bocu bucks.
John McManus: spring pulse flows for spring-run?
-- Garwin: Little sip in this Shasta RPA amendment focused on WR. Will be considered in the ROC on LTO
-- Jason: Tributary spring-run populations are in trouble. Wilkins Slough flows and diversions make it tough for juvenile SR to get to the Delta.
John McManus: Comment that their interest is in the adults, so he would hope the fry are robust enough to make it to RBDD.
Jeff Sutton-- Lewis and Jason: Anything that can be done to fill the data gap at RBDD RST?
-- Jason: Defer to USFWS, but they monitor until safety compromises crew.
-- Brycen: See notes from first workshop and references.
-- Jeff: Big data gaps and how to fill it is unsatisfactory.
-- Lewis: USFWS tries to fill the data gaps. We're trying to tune up RBDD. Look at temperatures, may not link tightly with RBDD estimates. We should have a conversation on how to refine the estimates.
Craig Addley
--Folks on the American River are in tune with Folsom modeling. In the drier years, need to be sensitive to draining Folsom.
-- Percent survival is based on RBDD RST, so why not use RBDD RST data?
++ Garwin: For Action I.2.1, the temp-dependent mortality percentages by water year type are based on the Martin model. Action I.2.5, the percentages are based on estimates at RBDD RST.
Ara Azharian--Biological objectives provide a false sense of success. Model indicates low mortality, but we got average survival to RBDD, so we should use real numbers.
-- Brycen: LCM to determine what the effect of restoration would be.
-- Garwin: Shouldn't operate to a J
Dave Mooney--Looking at incidental take focused on operations and water
Jeff Sutton--LTP on lower Klamath river. How can that be a no J when CVP/SWP is J? -- Garwin: LTP was a programmatic consultation with no

ITS, so Reclamation would have to engage in an annual consultation if they determine that a flow augmentation or pulse(s) are necessary.

Sent from my iPad