300.17

DNCT Meeting Notes
7/15/99
9:30-12:30

Attendees
Mike Fris, Matt Vandenberg, Karl Halupka, Pete Chadwick, Jim White, Sheila Greene, Bruce Herbold, Pete Rhoads, Art Hinojosa, Dave Fullerton, Dave Briggs, Jim Buell (phone), Russ Brown, George Barnes, Paul Fujitani, Tom Cannon, Ron Ott, Guy Masier, Dale Flowers, Dave Forkel, Jim Snow, Jeremy Arrich, Param Dhillon, Bruce Digennaro

Agenda
1. Evaluations
2. Issues/Hypotheses
3. Future games.
4. Implementation Issues

Topic Summaries
1. **Hypotheses –** agreement on wording of new draft – will present to Q/S on Monday.
2. **EWA Game effects - Striped Bass:** EWA caused shift to more summer-fall pumping which was not good for striped bass – salvage up 40%
3. **EWA Game Effects - Delta smelt:** adult smelt benefited but young did not do so well. Angst factor no help.
4. **EWA Game Effects – Salmon:** SJ had some benefit early in Stage 1 in Game 5, but limited in Game 4. Game 5 (late Stage 1) should some improvement.
5. **Water Supply -** not polished as yet.
6. **Water Quality –** higher summer exports hurt water quality but can be mitigated with water purchases for outflow.
7. **Next Game -** suggestions for water user game; game with 1999; games with more years; game with prescriptive standards but relaxable.

Hypotheses – Pete Chadwick
- Changes in white paper were reviewed.
- One disagreement on E1 was worthy of discussion – others were minor.
- Comments on paper should go to Pete Chadwick.

C: E1 – "Superior" to what? R: to the prescriptive alternative in minimizing effects on fish populations for any given amount of water.

C: We should consider having separate hypotheses for each of the three items in E1.

C: Concern that EWA assets (water) could be sold. R: this would be a policy question. R: we don't want to set up the expectation that the EWA would be selling water. R: more likely we will be backing off purchases than selling water.

C: We want to set up EWA in the next year: assets; implementation; etc. We should not have to worry about solving all of these issues.

C: These hypotheses will likely generate more questions – the questions will help us in designing and implementing the EWA to test uncertainties.

C: Each hypothesis must be testable.

C: Setting up these tech groups will be a problem. We have not taken steps to do this as yet.

C: We discussed using smaller, focused groups and providing them support if needed.

C: Most of the hypotheses related to delta smelt and San Joaquin salmon. These people are generally tied up – e.g. Dale Sweetnam is leaving.

C: We could go to outside experts. R: outside experts couldn't be brought up to speed. R: Doesn't really take away from the burden on our inside experts.

R: This is an impossible job – there is no true or false to these hypotheses. We shouldn't be looking for true/false conclusions, only relative orders of magnitude to guide EWA allocations/operations.

R: Only some parameters really relate to EWA – lets focus on these. Focus on pivotal relationships.

R: Getting small group together will provide focus to their direction.

C: White papers, interpretations, study designs – these are good things for CMARP

C: Make sure a false expectation is not created.

C: As presented the hypotheses are not readily answerable. There will be no sudden revelations.

R: Disagree: issues are much bigger – we need to guide CMARP to make scientific progress.

Evaluation of Games
Striped Bass: Pete Chadwick

1. Historical/Baseline – baseline had 40% more salvage of striped bass than historic due to shift in exports to summer and fall.
2. The Accord (in baseline) shifted exports to help other fish at the expense of striped bass.
3. EWA Increased salvage from July – November; less salvage from January to March. Net – little change.
4. Actions directed at other species had some incidental benefits to striped bass.

C: We need to define baseline to tech teams – brief them on games.

C: We should focus on Games 4 and 5 – early stage 1.

C: We should explain differences in games 2 and 4-5.

C: Dave Fullerton will present basis for games.

C: Need charts that compare EWA to Baseline. R: we should also be comparing to historical.

C: We should point out the differences – baseline may be problem, not EWA.

C: WE should rerun games under historical conditions. WE would apply EWA assets differently under historical conditions. Only this way will allow apples to apples comparison.
R: Disagree
R: historical salvage reflected historical conditions – we have assumed patterns and densities would not change under new baselines. Baseline and EWA runs may not be accurate because of these assumptions.

Delta Smelt – Mike Fris

- Send comments to Matt Vandenberg, Mike Fris, and Bruce Herbold.
- We focused on salvage and X2 changes.

- WE assumed that salvage is simply an indicator of direct and indirect effects on smelt.
- Results:
  - Adult smelt salvage was reduced in all years using EWA.
  - Games 4 and 5 did the best jobs for adults.
  - Prescriptive worked well for young.
  - Games 4 and 5 did not do well for young.
  - Young benefited from X2 improvements, but as we saw in 1999 this assumption may not be true. We may need curtailment in the post-VAMP period. (Dale was not surprised to see June salvage this year – June has historically been the highest smelt salvage month – "da".)
  - We calculated an "angst" factor based on previous year's fall midwater trawl index.
- The angst factor was of little benefit other than being an indicator for focusing our attention in the future. 93 and 95 were highest angst years.
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- Conclusion: did a good job on adults – borderline on young. EWA is helpful to smelt. San Joaquin flow and SOD export credits provided most of the protection.
- Concerns: need baseline/historical comparisons

Q: What benefit of EWA in 1999?
R: May need post-Vamp protections in some years.
R: We can run game for 99.
C: We increased exports in April and May of 1994 – that may be a problem.
Q: Will you touch on splittail? R: Yes; we directed assets to help splittail in 1995.

Salmon – Jim White

- Looking at salvage, central Delta survival, and upstream effects.
  1. Sac River survival
  2. SJ survival
  3. SJ salvage
  4. Upstream effects

- Looking at salvage benefits versus water supply impacts
- SJ salvage focuses on April-June period.
- Compared EWA to historic conditions
  1. Late stage 1 was improving but not great.
  2. Early stage 1 – not good for game 4; game 5 was better.
- Upstream effects will not be addressed by Monday.
- Angst Factor – not appropriate for salmon; escapement is not that variable. Angst high in all years.
- Will share what we plan to say in a Friday (16^{th}) email.

C: Game 4 and 5 baselines were not that different.
R: differences used were only April-June; which may have been different.

C: Fundamental Issue: how important are exports on Sac populations?

Q: Fishery effects?

Q: Newman Rice analyses? R: not by Monday.

Water Supply – BJ Miller memo

- Not polished as yet.

Q: Will you have year type and patterns? R: yes.

Water Quality – Dave Briggs

- Games 1 and 2 – affected salinity/bromide due to higher summer exports. (10-20 % increase in bromides in SOD exports.)
- Game 2 wiped out problems with water purchased and released to outflow. Peak salinity was reduced.
- Pushing out salinity with higher outflow has some wondering whether the cost is worth the benefit.
- DOC (dissolved organic carbon) peak in late winter or early spring benefited indirectly from fish actions.
- Will be deferring to CUWA/CALFED WQ Study. EWA water actions will be fed into that process.
- Games 4 and 5 benefited WS by moving pumping away from Feb-Mar period of high DOC.
- Comparison of historic versus baseline (Accord): Baseline had clorides down, DOC down – but there was trouble comparing game results.
- WQ gaming is hindered by minimal assets. Need real collateral.
- When outflow falls below 10,000 cfs, then WQ problems occur.
- Delta storage may have additional affect on DOC.
- Conclusions:
  1. EWA will have an effect on EWA
  2. Need to reserve a mechanism in EWA for WS mitigation during Stage 1.
  3. EWA is the only forum for WQ.
  4. We need to ID problems and develop a portfolio of solutions for WQ.

Q: baseline versus EWA effects on WQ – what are the causes of change in the game? What factors are important? Annual average? Peaks?
R: DOC may be long-term average annual factor.

C: Show graphic of peak cloride being clipped.

C: WQ should be included in future games.

Q: Will upstream actions affect WQ? R: probably not.

Implementation – Integration

1. ERP flows – are they exportable?
2. EWA 2000 entity? This forum? Will they implement Stage 1?
3. Policy wants to know: year 1 assets and how they will be implemented.
4. Need a suite of assets and rules for their use.
5. Define potential conflicts and indirect effects.
6. Define how we get around problems.
7. Need a table of sample actions and issues for each.
8. Need to define Stage 1 assets
9. Should have a range of alternatives for games – see where different groups are coming from. Will help set up next games.
10. Define who makes decisions and who develops contracts.

Next Game

Q: Do we need more gaming? R: Yes.

Alternatives:

- Game 6 - water users game
- Game 1999
- Extend years for games 2, 4, and 5.
- Prescriptive standards game with relaxation's – would have a rigorous baseline.

Q: Are the events in 1999 important enough to model them?

R: Yes – high priority – different hydrology and baseline conditions should be compared to view effect of year.

Q: Could we make this a subcommittee exercise rather than a group activity? R: yes.

C: We could tie in BOR forecast models – look ahead with a June carryover goal.

C: Focus on SOD assets.

C: What did we need for EWA in 99?

Q: Where would purchases come from? WE need to identify sources.

C: Look toward upstream reservoirs.

Q: Do we integrate the AFRP and ERP water actions into Baseline and EWA?

C: We should extend exercise beyond June 99 through 99-2000 water year.

C: We should find a followup year to 99.

C: We should run 99 with many options to view successive scenarios and effects of individual factors – updating new baselines each time.

C: Starting assets could vary at beginning of 99.

Q: 99 was preceded by two wet years – what if this had not been the case?

C: Build on 99 to develop a new sequence of years – 15 years.

Q: Who will make this presentation on Monday? - Dave Fullerton.

C: 99 may be biggest challenge for EWA.

C: EWA needs partial ownership of facilities; also needs upstream strategies.

Memo from Dave Fullerton

- What do we do with 99?
- We need to better address the water user demands.
- We should consider sharing storage with EWA.
- WE should establish an upstream benefits group.
- Transfer issue is a problem for EWA

Upstream Effects and Actions

Q: Do we include ERP flows in baseline? R: yes – they should be phased into baseline outside EWA concepts. They are an additional baseline condition, because ERP flows are too big a burden for EWA to have to cover.

C: We are trying to budget for long-term water purchases for EWA, AFRP, and ERP.

C: ERP and EWA have multiple benefits and synergies.

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