

DEFT Meeting Notes

11/10/98

1:00-5:00 pm

Agenda

1. Evaluate 5 scenarios:
 - a. advantages and disadvantages;
 - b. ESA assurances
 - c. Risk
 - d. Uncertainty
 - e. Fish protection/biological evaluation
2. Prepare for Thursday meeting with management
3. Flushout issues
4. Better or worse ranking

Highlites and Actions:

- evaluated scenarios
- table of comparison developed
- what's next discussed

General Discussion:

1. Mike F: Any of the scenarios could recover species with the right criteria; but they would differ in assurances, risk, and timing. They also differ in basic philosophy. We can't evaluate differences in biological effects. We could use Scenario A as the standard from which to compare. We should brainstorm the pro's and con's.
2. Pete C: Suggested the old DEFT scenario could be used as a baseline for comparison with the new 5 scenarios. We should outline the tradeoffs among the scenarios. If we had enough water supply for fish in each, then all would be very similar in performance.
3. Ron: we could use the DEFT scales for things like uncertainty.
4. Serge: We may have enough water. We need a list of the actions that provide protection for each scenario, and then define the risk by species associated with each of the tools.
5. Carl: We should have an independent benchmark for comparison - like the DEFT scenario.
6. Bruce: we should focus on the pro's and con's and not on the many ways to turn the knobs in each scenario.
7. B.J.: Water users will put measures into perspective. They will assess how operations of projects fit into the biology. They will identify what is trivial and what is important.

Sushil Presentation of DWRSIM Output for Scenario C

- He presented table of output.
- He is conducting other model studies.
- Bruce asked that he present annual table results.

Scenario Fish Protection

Scenario A:

8. Pete C: Has some of the DEFT scenario features plus more. Scenario A has some good protective measures. In C we would do similar things and get to the same place. A's actions may be limited only to A. We have yet to define the relaxation measures in A.
9. Bruce: 'A' has minimal adaptive management and good ESA.
10. Pete: We should focus on the degree of fish protection in our opinion.

Scenario E:

11. Bruce: does a good job of reducing direct mortality, but importance to fish populations of such reductions is in question; it focuses on stopping the killing of fish which is good, but would not have take limits.
12. Dale S: would take limits still apply? Probably?
13. Serge: should provide good protection; more than existing level.
14. Pete C: similar to D.
15. Jim W: What if we don't get the water we hope for? What if we hold the projects to the target salvage reduction?
16. Mike F: Unknowns: control of take is limited. Only a fair level of assurance.

Capacity for Adaptive Management

17. Pete C: We must include an ability to change the fixed standards and relaxations as we go in Stage 1 - which is a still strong adaptive management capability - granted not as fluid as C or D.
18. Serge: agrees, but recognizes it has less capacity than other scenarios.
19. Carl: the high level of background fish protection and ESA assurance would allow more experimentation under adaptive management in A than the other which would be burdened by greater remaining risk and less ability to adaptively experiment.
20. Mike F: agrees with Carl.
21. Elise: agrees that it will be difficult to experiment without a high level of background protection/assurance.
22. Bruce: C, D, and E may have limited capacity for experimentation. But under A, QWEST provisions may not be best protection. C, D, and E at least have an eco manager to set up experiments, whereas not available in A or B. A and B have no flexibility.
23. Mike F: we should not consider flexibility in E with adaptive management; but that would not preclude doing experiments under the ecomanager in E.
24. Pete C: C and D have an ecomanager to plan experiments.
25. Elise: A and B gain assurances first, then apply adaptive management.
26. Dale S: Relaxations under A could include adaptive management.
27. Serge: D has more adaptive management because it can reduce AFRP actions.
28. Carl: where is water in D for adaptive management experiments? C and D set water through relaxation of standards and new water supplies - there would be no luxury to experiment because always looking to provide needed protection as more supplies are

developed.

29. Pete C: not safe to assume eco manager has flexibility to conduct adaptive management experiments - need to build such flexibility into all the scenarios.
30. Bruce: A and B are confined in ability to adaptive management - would rely on other programs (e.g., CMARP) to provide adaptive management. Agrees that new standards could be set up as experiments.
31. Carl: we are debating based on our personal views as to how scenarios will be structured and function.
32. Elise: adaptive management applies to majority hypotheses - would not allow for room for minority views - only flexing of majority.
33. Serge: rigid construction of standards in A and B limits adaptive management.
34. Mike F: All of Stage 1 could be an experiment.
35. Carl: Agrees that in A there is low inherent flexibility with adaptive management more likely in Stage 2.
36. Pete C: A defines minimum conditions: real-world there would be a range and conditions and responses that would provide adaptive management insights.
37. Bruce: In A the QWEST standards will be difficult to evaluate. C and D allow some flexibility that just isn't available in A; but A has a strong future potential.

Uncertainty

38. Consensus to drop - covered under other topics.
39. Pete C: Capability of eco manager to make decisions is questionable. Policy need to understand that opportunities in past have been fraught with problems - they think flexibility will solve these problems.
40. Serge: there is more certainty of A getting water for environment - less in E.

Hybrids - Bruce

Bruce presented two hybrids of the five scenarios with best features of all that he has presented to EPA. Basically put strengths of A with eco manager and new water supplies for env. Each scenario has strengths that he has put together - repackaged.

41. Pete C: Environment should get 50% of water and 50% of cost of new water.
42. Ron: do we want to create more hybrids?
43. Elise: Bruce has gone ahead and done what the managers were going to do; but recognizes they may be unable to formulate reasonable hybrids, which we could offer.
44. Dale S: concerned about any new hybrids if we have looked closely at them.
45. Mike F: policy will ask us to prepare hybrids.
46. Elise: this could open a Pandora's Box of infinite combinations of features.
47. Mike F: we have basically four tools that we could arrange in optimal arrays.
48. Pete C: Bruce's hybrids focus on VAMP.

Ron - What is next Step?

49. Elise: ask management to make some decisions and choices.
50. Pete C: Need to get better handle on water supply costs. Ron - Yes.

51. Dale S: we need to evaluate the five scenarios in more detail.
52. Pete C: Need to define what actions we can employ with each new increment of water supply in C, D, and E. We need a detailed evaluation of the various new increments of water supply, when they would come line in Stage 1, and how env would use their portion.
53. Ron: If they ask us what is next I will say:
 - (1) more detailed water supply evaluations
 - (2) need to define how much of Delta water supply demand can be made up by non-export water

Russ Presented results of two model runs

1. Sequential San Luis storage
2. Demand level at 5 maf rather than 6 maf.

Table

	SCENARIO				
	A	B	C	D	E
Fish Protection	Moderate to Good (up front actions)	Moderate to Good (rapid phasing as water supply is developed)	Moderate to Good (Phased)	Moderate to Good (less phased)	Fair to Moderate (includes other non-salvage related measures)
ESA Assurances	Immediately get a good level of assurance	Assurance depends on ability to develop and timing of new water supply	Requires more water than B to get the same level of assurance.	Requires even more water than C to get the same level of assurance.	Ability to grant assurance dependent on demonstrating effectiveness.
Ability to provide Multi-species Benefits	Maximizes multispecies benefits on average every year	Ability to achieve multispecies benefits increased over time to the level of A	Annually varying multispecies benefits with benefits focused on ESA species	Annually varying multispecies benefits with benefits focused on ESA species	Initially limited; potential benefits increase as water supply is developed.
Capacity for Adaptive Management	Low inherent flexibility with adaptive management more likely in Stage 2 of program.	Medium inherent flexibility, which could be used for experiments.	High inherent flexibility for adaptive management experimentation . As more water supply is developed ability to test hypotheses increases	High inherent flexibility for adaptive management experimentation . As more water supply is developed ability to test hypotheses increases	Adaptive management of high value is limited primarily to experiments related to entrainment effects.