Meeting Minutes
DEFT -NoName Coordination Team (DNCT)
September 4, 1998
9:00pm to noon

Participants
Pete Chadwick, Jim White, Pete Rhoads, Peter Louie, Randy Bailey, Ron Ott, Jim Snow, Mike Fris, Stephanie Brady, Matthew Vandenberg, Bruce Herbold, Art Hinojosa, Russ Brown, Warren Shaul, Tom Cannon, Mike Ford, Dave Briggs, Spreck Rosekrans, Mark Cowin, George Barns, John Renning, Ed Winkler, Stein Buer, BJ Miller, Terry Erlewine, Gary Bobker (phone)

I. Agenda

A. Fish Triggers

B. Env. Water Account

C. Parameter Flexibility

II. Environmental Water Account (Dave Fullerton)

A. Existing rules for exports could be more complex

1. instead of simple seasonal constraints on pumping, method could be based on real-time conditions such as the following:
   inflow
   QWEST
   SJ inflow
   outflow
   take trends for ESA species
   some monitoring trigger

2. could rewrite standards, but not enough understanding

3. real-time response would allow more understanding and possible fixed rules in future.

4. real-time experiments would increase our understanding

5. set up experiments with hypotheses developed from historical data

6. predict results with real-time model (e.g., Delta SOS)

7. experiments, triggers, and modeling should be kept simple

8. real-time management is compatible with "adaptive management" approach - learn about the system through experiments

9. keep export rules and standards as they are

10. use existing means of accounting for water

B. Environmental Water Accounting

1. must decide where to store water in account

2. more places the more flexible the account

3. where does water come from for env acct?
   increase pumping and store it somewhere where there is capacity (may include relaxation of export standards)
   simple purchase of credits or water stored somewhere
   from transfers

4. account can't borrow or go into debt

5. potential is 100-200 TAF in short term, 1 MAF in long term

C. Comments/Questions

1. env water stored in San Luis could be lost at end of year or during spills - tendency is to lose some water in most years - may lose more in early years, thus requiring more up front investment.

2. No change in standards are necessary to have account.

3. Independent of alternative chosen.

4. New structures will provide more water for env if there is an account.

5. Dry years there is less supply for whatever purpose including env account.

6. New facilities will provide more supply in drier years including env acct

water; but acknowledge that there will not be much new supply at least in Stage 1.

7. Env Acct and new facilities will provide more flexibility.

8. New facilities could have a designated env account or defined portion of yield designated as env water that could be stored in account.

9. Dedicated env water is compatible with env acct.

10. There will be opposition to new facilities regardless of their purpose or sharing. Conservation measures will have greater support and could contribute to env acct.

11. Contribution to env acct could be based on the degree of public funding; also protects those supplies funded by private money.

12. increased supply can also come from increasing our ability to export in wet years

13. real-time experiments may be necessary to determine yield of new projects

14. acct should be spent in a balanced way, not just on delta smelt or winter run

15. flexibility noted is on the killing side (e.g., exports); need some on the survival/production side (e.g., flows).

16. Could recommend facilities or package of facilities, then negotiate how to operate to benefit all resources.

D. Conclusions

1. env acct can be funded by allowing variances in standards

2. environmental protection can be provided in three ways:
   set standards
   share water
   operate flexibly in real-time

3. The less we depend on standards the more flexibility we have to share water and operate flexibly.

4. We should experiment with combinations of the three to get best mix.

5. env acct has risks (e.g., purchased water could be lost before it is used) - always some benefit.

III. Triggers (B.J. Miller)

A. Long term export data base provides clues to triggers for real-time operation.

B. Operate to reduce mortality at pumps.

C. Focus operating changes on things that have greatest effect on adult equivalents.

D. Make conservative assumptions in these calculations/models.

E. Comments:

1. its too late for the fish when salvage is occurring - need an earlier warning system with comprehensive coverage of the population density.

2. extrapolations to total take and equivalent adults is too crude a measure to manage from.

3. Pitting one fish against another.

IV. Salvage Trigger (Peter Louie)

A. 18 years of salvage data - 1988-95 files for 5 species, salvage, direct mortality, direct equivalent mortality

B. Basic Concept: there are times in wet or dry years when you would avoid exports and times when you need not. For example could curtail exports when fish are at the pumps and maximize exports when they are not.

C. delta smelt losses come in fairly predictable waves - we can exploit this to avoid exports during waves and increase them at other times (e.g., after a wave).

D. waves may signal their arrival in time for an appropriate response - or there may be other predictors of waves - we need to conduct analyzes of the salvage data to determine more about this phenomenon.

E. salvage alone as a trigger assumes that salvage is a function of density and that take can be reduced simply by reducing pumping - this may not be a valid assumption (take may simply be a function of the number of fish in the area of the pumps).

F. method is useable even in dry years when there is capacity in storage reservoirs for later making up losses to water supply

G. acknowledge that mortality from other sources may vary (add noise to predictions)

H. need an earlier trigger to be most effective - need to look for the early trigger in database analysis.

I. need to be more proactive - use other means (e.g., flows) not just reduced exports

J. triggers and salvage could signal times when exports can be safely increased above standards.

K. system could be set up to adaptively manage exports in real-time.

V. DEFT Real-Time Operational Flexibility Concept/Method

A. Develop a Base Line of operations: May include new environmental requirements, some fixed, some flexible.

B. Develop a general group of actions that could work with any baseline, such as:

Share in new yield- Projects that add water supply would share yield with environment. Amount or proportion shared could very based on degree of public investment. Could consider existing and new projects.

Environmental water account- Deposits (banked somewhere) from relaxation of standards and/or purchased water. Debits from reduced exports and/or going beyond standards.

Operational flexibility base on real-time triggers- Real time adjustment in operations (flows, exports, storage, conveyance) that improve opportunities enhance fish and improve water supply. Network of real-time data/monitoring that guides adjustments (pro-active triggers such as salvage, fish distribution, water conditions). Adaptive management (effectiveness of approach will improve with time.)

The DNCT has formed subgroups to evaluate the potential of operational flexibility based on real-time triggers and of using an environmental water account.

VI. Environmental Water Account subgroup

Dave Fullerton
Gary Bobker
Ed Winkler
George Barns
Terry Erlewine
John Renning

VII. Operational Flexibility subgroup

Bruce Herbold
Pete Rhoads
Spreck Rosekrans
Ed Winkler
Pete Chadwick
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VIII. Potential for real-time triggers at pumps

Mike Fris (leader)
Jim White
Peter Louie
Dave Fullerton
George Barns/Gary Bardini
Gary Bobker/Elise Holland
Russ Brown (assigned to help in statistical analysis and input into models)

VIV. Next Meeting- (9-noon) September 17th