

These questions are the heart of what we have tried to answer in the last two months of effort.

1. How can protection be afforded to species early in the water year when the account may be empty?

The difficulty of ‘pre-pumping’ any environmental water has generally resulted in an inability to use the flexibility provided in the 1995 WQCP, which left a lot of scope in managing exports to the ‘Ops Group.’ Without some way for the environment to assure the other waterusers that changes in operations would be made without endangering their supplies, project operators have worked to minimize risks to contract deliveries. Even when the take of endangered species has exceeded the number authorized by the biological opinions, the Accord’s assurances to waterusers has resulted in little action to reduce take until assurances can be provided that the actions won’t interfere with deliveries.

To address this need the Environmental Water Account must have some way to assume any risk that fish protective measures might put on deliveries. This ‘insurance’ could be water or money or both that could compensate for any actual impacts on exporters. Alternatively, if the EWA held contractual rights to some volume of water, it could trade those rights for whatever environmental actions were needed.

With the use of the Joint Point of Diversion and increased pumping capacity at the State facilities, San Luis Reservoir will fill in the vast majority of years, generally by March. In any year when San Luis Reservoir fills, environmental actions taken prior to the date of filling will not require any decrease in the volume of water in the EWA. Thus, having the collateral to assume the risk will usually be adequate to justify substantial reductions in pumping during the Fall and Winter months.

2. How can environmental water be stored for later use in a system limited by storage?

The storage space that has been identified in some south of delta reservoirs and ground water basins is crucial to success of the ‘gallon-for-gallon’ approach to the EWA. The alternative ‘contractual’ approach integrates the responsibility for managing EWA water with that of all other contractors. In either case, water alone is insufficient for an effective EWA; access to storage and facilities is crucial.

Water coming from CalFed’s reclamation and water use efficiency programs represents a reduction in demand and, thus, does not require the use of storage and conveyance facilities. Water savings from these programs also represents a ‘refillable’ portion of the EWA, because the savings are generated anew each year

3. How can protection be ensured when protective needs exceed the water available?

Such a condition could come from either an overall shortage of water, an EWA with inadequate assets, or a year of exceptional fish sensitivity.

Under drought conditions, many actions of the EWA actually become easier because shortage of water results in reduced export operations and greater scope for moving exports away from times of fish concern and into other times of the year.

Adequacy of the EWA to deal with most environmental conditions that are expected to arise is almost purely a policy issue. Recent simulations by biologists and operators using historical salvage data and modeled export operations seem to suggest that an EWA of around 400 TAF is necessary. Clearly, the larger it is the greater assurance can be that substantial reductions in entrainment can be achieved but the greater the conflict with other water users.

In years of exceptional fish sensitivity, the EWA will need to focus its efforts on those species that are at greatest risk in that year. Thus, expected salmon escapement or the abundance of adult delta smelt could be used to focus protective measures. In addition, option contracts might need to cover a variety of contingencies: some options might be able to call on water 5 out of 10 years and some others might only be usable 2 out of 10 years. These less frequent option contracts could represent a back-up insurance policy for an effective EWA.

Often overlooked is the fact that any protective methods will fail under some conditions. During the recent simulations a number of actions were taken to protect fish that would have been lost under the proposed regulatory approach. Even when QWEST is positive and E/I ratios are low, fish are entrained at the facilities in varying numbers. The degree of confidence one has in the effectiveness of regulatory actions will determine whether such entrainment should be addressed by an EWA.