Discuss w/ Dick

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May 27, 1996

TO: Selected Recipients

I have prepared this memo to call to your attention one of the most important documents I have seen concerning the Bay-Delta fishery and related problems. Please read as much of the attached as you have time for. I have included a summary of significant points later in this memo.

In April, the Interagency Estuarine Ecology Project Workteam prepared a draft analysis of problems with Bay-Delta aquatic life, especially fish. This analysis was prepared for the CalFed Bay-Delta Program. The work team is a group of individuals from the Interagency Ecological Program (IEP). IEP is the ongoing $13 million per year cooperative program among a number of state and federal agencies.

This work team could, therefore, be expected to represent the best and most prevalent thinking by Bay-Delta IEP participants on what is known about Bay-Delta fishery and related problems and the causes of those problems.

I have attached the IEP analysis and the a set of comments by Metropolitan. This set of Metropolitan comments is devastating (My characterization, not Metropolitan's. Nowadays, Metropolitan is usually decidedly more politic.)

This set of comments, prepared by Dr. Phyllis Fox, reveals that several of the beliefs most strongly held by the Bay-Delta Biological Brotherhood are, in fact, not supported by data and, in many cases, are contradicted by the data. These beliefs fall in the category of what might be termed "we-all-

know-that," as in, "Since we all know that . . ., it must be true."

Listed below is a summary of the most significant beliefs, with an explanation of what the facts appear to be:

***Belief:*** *That water project operations are the sole significant factor affecting fish in this estuary.*

In fact, five of seven (70%) samples of the Sacrament River (which supplies about 80% of the freshwater flow to the Delta), collected between February 1996 and February of this year, showed that the **river was lethal** to fathead minnows, one of the hardiest species. There is considerable other evidence on the adverse effects of toxics on a variety of fish and food chain species.

**Fact: It would appear that we have major toxics (pesticide) contamination of this estuary and that this contamination is receiving almost no attention.**

***Belief:*** *That abundance of striped bass, formerly (pre-endangered species listings in 1992) the "indicator species" for the Bay-Delta estuary, is controlled by Delta outflow and exports and that other factors are not significant.*

In fact, there are better correlations with pesticides than with outflow/exports. Also, other analyses suggest that striped bass are severely food limited.[1]

[1] The oft-sited failure to find any starving striped bass larvae is not evidence of a lack of food limitation. In the first place, if larvae were starved, it would be hard

**Fact: Striped bass in the estuary are more likely to be limited by food and adversely affected by pesticides than they are adversely affected by water project operations.**[2]

***Belief:*** *That Delta smelt are habitat limited, the particular type of habitat being shallow water habitat in their preferred salinity range (as measured by the number of days that the 2 ppt salinity is in Suisun Bay from February through June (the X2 standard)).*

In fact, the data do not support that contention. Using the correct statistical technique, there is no statistically significant relationship between Delta smelt abundance and X2.

**Fact: Delta smelt abundance is controlled by factors other than the X2 relationship.**

How does this sort of thing happen? That is, how is it that the Bay-Delta Biological Brotherhood believes so strongly in things that are not true? What is going on here? I believe it's something like the following:

Most members of the Biological Brotherhood have good reasons to support the paradigm that the water projects are the sole significant cause of the Bay-Delta fish problems.

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to find them because they are eaten so fast. More importantly, you don't have to starve them; if their food supply is limited and they simply don't grow as fast, their mortalities increase significantly just because they are smaller.

[2] It would be interesting to calculate just how many hundreds of thousands of acre-feet of water was not supplied to ag/urban water users because "we all knew" that outflow and exports had to be controlled to protect this fish.

One reason is that the IEP, funded at more than $10 million per year for years, has had as its purpose, mandated by the State Water Resources Control Board, to find out how the water projects are affecting the fish. The purpose has not been to find out what is wrong with the fish and other aquatic life, but only to find out what effect the water projects are having. This program has been funded in large part by water user funds, one of the great strategic blunders in California water history. The program has spawned an entire generation of agency biologists focused on the water projects to the exclusion of virtually any other causes of the fish problem.

The activist arm of the biological Brotherhood, the professional environmentalists, also have good reason to see that the water projects get all the blame. Having a convenient, easily identifiable enemy is a key element in environmental fund-raising.

As a result, analyses that support the paradigm tend to be accepted without criticism by the Biological Brotherhood. If someone produces a contrary analysis, they are bitterly attacked and can be ostracized, making it difficult if not impossible to continue to have ready access to data and funds to do their work.

These analyses form the basis for carrying out environmental laws and regulations that are supposed to be based on science. Over the years, as more and more of these often wrong but never challenged analyses are performed, an ostensibly stronger and stronger scientific case is made for more and more stringent regulation of water project operations.

> If critical analyses are not performed by water users and then vigorously pursued by water users (to prevent the Biological Brotherhood from simply ignoring the contrary analyses), the effect is inevitable--less water supply and no appreciable environmental improvement.

That is why the Metropolitan comments are so important. They are a good example of what water users should have been doing a lot more of. Dr. Fox was able to prepare these comments because she had already done most of the background work under a contract to the California Urban Water Agencies to prepare a general report on toxics in the Bay-Delta estuary.

This is the type of ongoing effort at science that water users do not do enough of. We get interested when there is a crisis. For example, we did a lot of good, critical work leading up to the Bay Delta Accord. After December 15, 1994, water users tended to lose interest and go back to the things they know best, delivering water and dealing with "policy and process." That has been the pattern over the years, spasmodic efforts at science that essentially cease when the crisis passes.

But the Biological Brotherhood never stops. Like termites building mounds, they work continually, producing more "science" to support the water-projects-are-all-to-blame paradigm.

Note that if that "science" is not challenged, all of the policy work and politics and meetings and process stuff that we all spend so much time on is, at best, just a delaying tactic. If we do not engage in the science effort on an

ongoing basis, water supplies will inevitably suffer, and, incidentally, so will the environment.

In summary, the Metropolitan comments are important for three reasons:

They present several good examples of just how misguided the prevailing "science" is.

They show what can be done with good critical analysis.

They are a good example of the fact that this work has to be ongoing and not just spasmodic in response to some crisis.

B.J.