## EXHIBIT PTA-1: Summary and Testimony

Public Trust Alliance:A Note on Shifting RisksSubmitted by Michael Warburton

Supporting possible participation on Panel #1:

## A Context for Receiving Scientific Information

We understand the State Board has been tasked by the California Legislature to, in the next few months, develop new flow criteria for the Delta "necessary to protect public trust resources." By now, even with the suggested focus on "Delta outflows," everybody involved in the process realizes that this is not a matter of selecting "a number" and fine-tuning a few policy knobs to approach that target. Indeed, we've had science-inspired "flow objectives" that have been knowingly and routinely ignored and violated for years. We now have an opportunity to take another thoughtful look at what we know, what we need to know, and even what we are likely to be able to know. A context for receiving scientific information which embraces the various uncertainties we face in this system has to be established before hosting a premature argument over numbers and data. And just because we have uncertainty, it doesn't automatically operate as an excuse for water users to do whatever they want to. The public trust requires trustees (like the State Board) to use their discretion in a precautionary manner, actually to use the best knowledge available to preserve trust assets whenever feasible. This includes the responsible development of flow criteria.

From the human angle, most see the Delta as a contested stage where individual water users, the general public and the regulators have deep rooted and often conflicting perceptions, expectations and policy prescriptions. But on this stage, there are ecological risks faced by all species. And any changed allocation of water flows has its "winners" and "losers" when compared with "current conditions." It is information relevant to these levels of risk, and a knowledge of which parties and organisms bear them, and how sharing may be adjusted that should be the focus of Board attention at this time.

Developing new flow criteria requires us to look at a Delta "ecology" that includes the activities of Homo Sapiens (in both our native and invasive forms) and where "nature" is not assumed to have intrinsic "balancing" functions that happen to be oriented toward serving our own particular needs. We have to take a more objective perspective that recognizes that, along with other organisms and processes, we are a major factor in shaping California ecology, and we will continue in this role. But we may elect to change some of our habits and expectations as we are required to preserve the capacity of the ecological systems that ultimately support us.

What are the "public trust resources" the Legislature is interested in protecting? The California Supreme Court has described the public trust doctrine as "an affirmation of the State's duty to protect the people's common heritage in streams, lakes, marshlands and tidelands." We know this common heritage includes both the navigational uses of the

state's water as well as the fisheries and the ecological systems which come with them.. In this understanding, "flows" relate to "streams and rivers and their living resources." The public trust did NOT develop around a context where "conveyance facilities happen to be populated by pelagic organisms." The broader perspective of the trust and the formations and ecological communities protected by it, require us to look at "ecological units" and inter-relationships in the way we relate to our water rather than an arbitrarily segmented collection of engineering attributes. In this public trust-adjusted perspective of ecological functions and inter-relationships, gaps in our scientific knowledge are far moiré readily identifiable and we can see it's too early to be arguing over data as if nature actually "behaves" through our categories and descriptions that are actually just how we have chosen to characterize our experience.

## **Insights and Systemic Connections**

This section heading is drawn from my most serious contribution to scientific debate, a book that I co-wrote on appropriate responses to an ecological crisis associated with the deforestation of the Himalayan Foothills in Central Asia. The book was called "Uncertainty on a Himalayan Scale," originally published in 1986 but republished in 2007 as part of the "Himalayan Classics Series" with an introduction by the former Minister of Water Resources for Nepal. There, we encountered a system where, like the Bay-Delta, "scientific research" filled whole libraries, but there was still inadequate information on the types of management responses which were helpful and those that were clearly inappropriate, or not consistent with the signals reliably located within the realm of current scientific knowledge.

In terms of ecological risk in the Bay-Delta system, one of the most salient factors that has come to be appreciated are the processes and consequences associated with the macro-level drivers included in what has popularly been referred to as "climate change." The summary decision of the Board to exclude any consideration of this factor because it is unwieldy is symptomatic of the treatment of "scientific" information. This decision means that all other knowledge will be assessed against a background knowingly lacking any consideration of trends bringing predictable increased stresses on the ecological resources being considered. Similarly, the arbitrary and increasingly unjustifiable analysis of "groundwater" and "surface water" as separate entities makes any discussion of "flows" immediately suspect.

The legislatively required focus on public trust resources requires a disciplined collection of relevant information about "the people's common heritage in streams, lakes, marshlands and tidelands." These are the natural units to which fish and other organisms have adapted. The more the "flow criteria" are related to maintaining viable versions of these units, the more appropriate the review, and the greater the importance of the source of the flows. The more data is arbitrarily segmented into engineering style units, the less viable and appropriate the "scientific" evaluation. Uncertainty then functions as a self-interested excuse for habitual conduct, and not an opening for responsible reflection on the needs threatened ecologies. We can't even see that too much water has been diverted.