### **Robert Pyke, Consulting Engineer**

# Western Delta Intakes Concept<sup>1</sup>

### Two keys:

- 1. Recognition that larger export flows has turned the Delta from an estuarine environment into a more lacustrine environment which favors invasive species over native species; and
- 2. Recognition that precipitation in California is extremely variable and that past and future variability must be addressed in any sustainable water management plan.

## Three principles:

- 1. That natural flows through the Delta should be restored to the maximum practical extent;
- 2. That much more water should be extracted at periods of high flow and much less, or zero, water should be extracted at periods of low flows;
- 3. That any proposed solution should be self-regulating and not rely on complicated agreements;

### Six physical elements:

- Convert the Delta Cross Channel gates to a boat lock;
- 2. Construct new intake facilities somewhere in the West Delta to allow flows to pass through the Delta in a natural way before surplus flows are extracted,
- **3.** Construct one or more tunnels that can move the extracted water to additional storage facilities near the existing Clifton Court Forebay;
- **4.** During periods of very high flow, the new intakes and the existing South Bay intakes, with fish screens along the Old River, could be used simultaneously;

<sup>&</sup>lt;sup>1</sup> http://www.fixcawater.com

- **5.** Add south-of-Delta storage, much of it likely as groundwater, but also perhaps including new Westside surface storage;
- **6.** To maintain South Delta water quality, construct a lined canal to recirculate water from the aqueducts to the San Joaquin River as necessary.

The figure shows how this might be implemented. Details of the proposed permeable embankments on Sherman Island are provided in the Addendum to the White Paper.

