#### **Bay-Delta Workshops** Brock B. Bernstein April 9, 2013

# Background

- Updating 2006 Water Quality Control Plan
- Board requested input on science and management related to fish & wildlife beneficial uses
- Organized three workshops
  - Ecosystem changes and low salinity zone (Sep 5-6)
  - Fishery resources pelagics and salmonids (Oct 1-2)
  - Analytical tools for water supply, hydrodynamics, hydropower (Nov 13-14)
- Intent to enable broad range of stakeholders to provide input and for Board members to engage them in discussion

# Workshop Charge

#### • Workshops 1 & 2

- What additional scientific and technical information should the Board consider?
- How should the Board address scientific uncertainty and changing circumstances?
- Workshop 3
  - What types of analyses should be completed to assess effects of changes to Bay-Delta Plan?
  - What tools should be used to evaluate these effects; what are their advantages / disadvantages?

### Participants

- Invited panel organized by Delta Stewardship Council Lead Scientist
- State and federal regulatory / fishery agencies
- State and federal resource management agencies
- Environmental / non-governmental organizations
- In-Delta water interests
- State / federal water contractors
- Sacramento Valley water suppliers
- San Joaquin Valley water suppliers
- California energy agencies

## Workshop Summary Approach

- Workshop summary report available online
- Synopsis of each presentation in each workshop
- Q & A and discussion with Board members
- Facilitator's report identified key points of agreement, disagreement, uncertainties and questions

# Major Topics Addressed

- Research and conflict resolution approaches
- Salinity and the Low Salinity Zone
- Flow
- Fish, their habitat, and the overall ecosystem
- Nutrients and plankton
- Invasive species
- Contaminants
- Management and adaptation
- Modeling approaches

#### Nature of the Problems

- Basic agreement on core issues
  - General agreement on broad principles, conclusions, areas of uncertainty
- Much less agreement on
  - Specifics of patterns and processes
  - Cause effect relationships
  - Outcomes of alternative policies
- These are "wicked" problems
  - Multiple and poorly characterized factors
  - Factors whose relationships change over space and time
  - Involve entities / people with competing interests
  - Affected by weak coupling between science & management

## Next Steps

- Awareness of long-term downside of persistent conflicts over science and its interpretation
- Broad agreement with / support for Invited Panel's call for more collaborative science
- Willingness, with some caution, to work across institutional boundaries
- Workshops did not identify a specific mechanism for collaboration