Hydrological and Operations Modeling for the Phase II Update of the 2006 Bay-Delta Plan

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Water Quality Control Planning

- Water Quality Control Plans
- The Bay-Delta Plan or the...
  - Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary
- Beneficial uses, objectives, program of implementation, and monitoring
- Updated periodically
Phase II Update

- Focused on protection of fish and wildlife
- Potential new inflow requirements for Sacramento River mainstem, major tributaries and Delta eastside tributaries
  - Phase I separately addresses San Joaquin flows to Vernalis and southern Delta salinity
- Potential changes to Delta outflow requirements
- Potential new and modified interior Delta flow requirements
- Monitoring and special studies program
- Program of implementation
Modeling Needs for Analysis of Alternative Regulatory Requirements

- Estimates of flow conditions
- Estimates of changes in water diversions to evaluate impacts on agricultural resources, water supplies, and groundwater
- Estimates of changes in reservoir storage to evaluate impacts on hydropower generation, recreation, fisheries, and water supply
- Inform other analyses or models, such as delta hydrodynamics, temperature, and economic.
Modeling Considerations for Phase II

- Flexible tool that can be used by State Water Board staff and others
- Ability to simulate State and Central Valley Water Project (Project) reservoirs and Delta operations
- Ability to simulate non-Project reservoirs and operations
- Ability to simulate major upstream hydropower reservoirs and operations
- Ability to expand for use in future efforts
- Thorough documentation of model assumptions and inputs
Previously Available Tools

- **CalSim II**
  - Detailed representation of Project operations
  - Limited representation of non-Project tributaries
  - Not user friendly
  - Not well documented
  - Not readily usable by State Water Board staff and others

- **Central Valley Planning Area Model (CVPA)**
  - Course representation of entire Sacramento Valley
  - Representation of non-Project tributaries
  - Representation of upstream reservoirs
  - User friendly
  - Lacks detail of Project operations
Development of SacWAM

- CV-PA
- CalSim II
- Updated supply and demand data

SacWAM Beta 0.2
SacWAM Coverage
SacWAM Webpage


For more information, contact Scott Ligare

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Phase II Modeling Future Work

- Delta Science Program peer review
- SacWAM 1.0
- Working Draft Scientific Basis Report-documenting science that supports potential changes to the Bay-Delta Plan
- Phase II Draft environmental document-will evaluate broad range of alternatives through a public process
- Model enhancements for future efforts