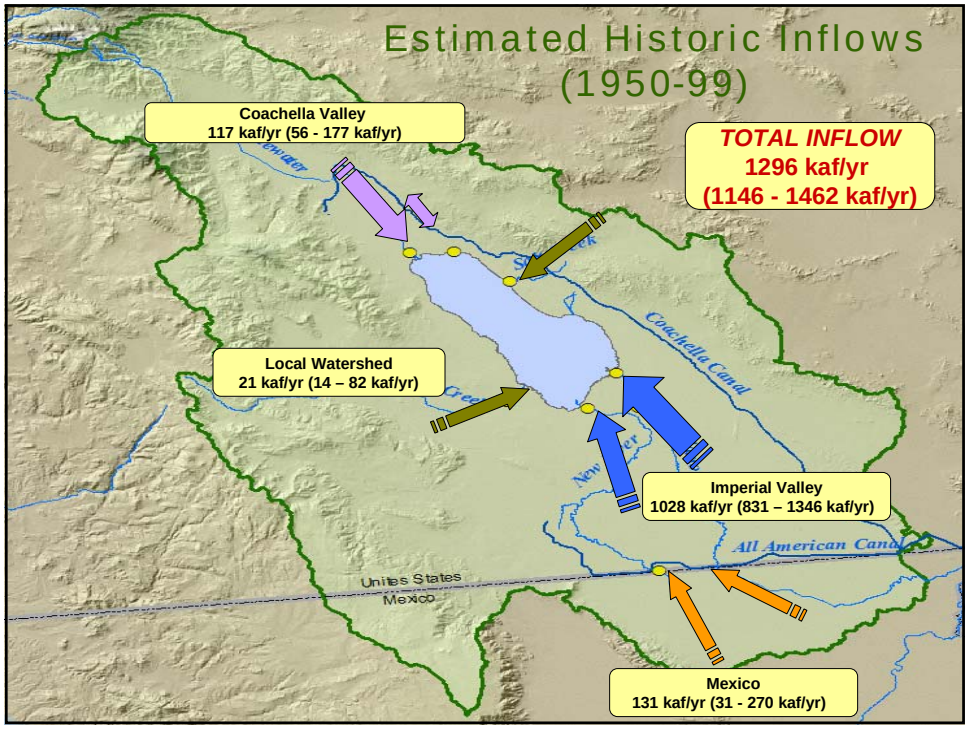
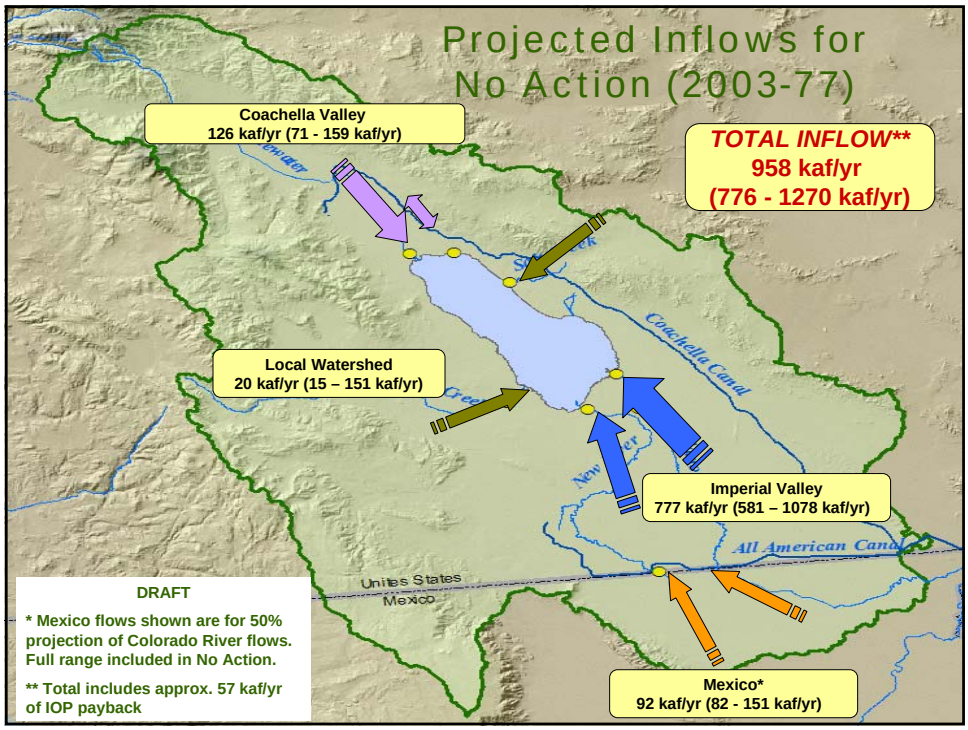
Inflows/Modeling Working Group Update

Advisory Committee
August 17, 2005

Review of Progress by Working Group

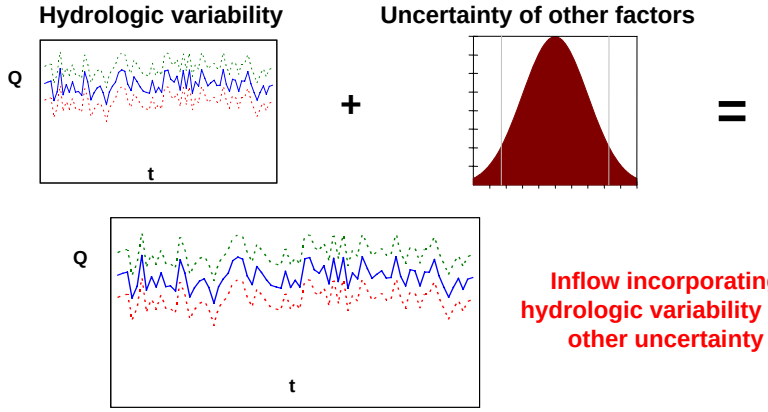
- **Finalized inflow assumptions for No Action Alternative**
  - **QSA Assumptions and Recent Changes**
  - **Hydrology for local watersheds**
- **Finalized methodology to project the range of future inflow conditions**
  - **Based upon a Stochastic, or Probability, Approach**
- **Initiated discussion on projecting future salt loads**
- **Continued discussion on model development**


Estimated Historic Inflows
(1950-99)
Coachella Valley
117 kaf/yr (56 - 177 kaf/yr)
TOTAL INFLOW
1296 kaf/yr
(1146 - 1462 kaf/yr)
Local Watershed
21 kaf/yr (14 – 82 kaf/yr)
Coachella Canal
Imperial Valley
1028 kaf/yr (831 – 1346 kaf/yr)
All American Canal
United States
Mexico
Mexico
131 kaf/yr (31 - 270 kaf/yr)


Projected Inflows for
No Action (2003-77)
Coachella Valley
126 kaf/yr (71 - 159 kaf/yr)
TOTAL INFLOW**
958 kaf/yr
(776 - 1270 kaf/yr)
Local Watershed
20 kaf/yr (15 – 151 kaf/yr)
Coachella Canal
Imperial Valley
777 kaf/yr (581 – 1078 kaf/yr)
All American Canal
United States
Mexico
DRAFT
* Mexico flows shown are for 50% projection of Colorado River flows. Full range included in No Action.
** Total includes approx. 57 kaf/yr of IOP payback
Mexico*
92 kaf/yr (82 - 151 kaf/yr)

Overview of Analytical Approach

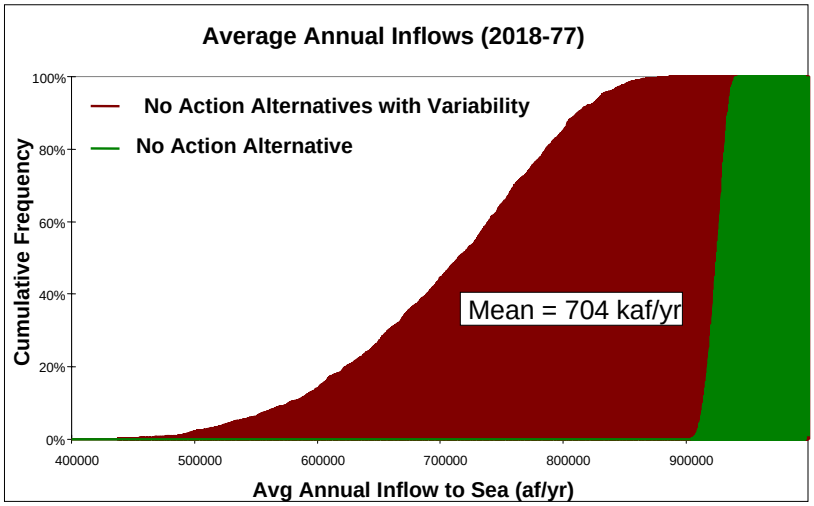
- **Incorporates hydrologic variability and future policy uncertainty for each inflow source**



Stochastic Approach to be Applied for Each Major Hydrologic Component

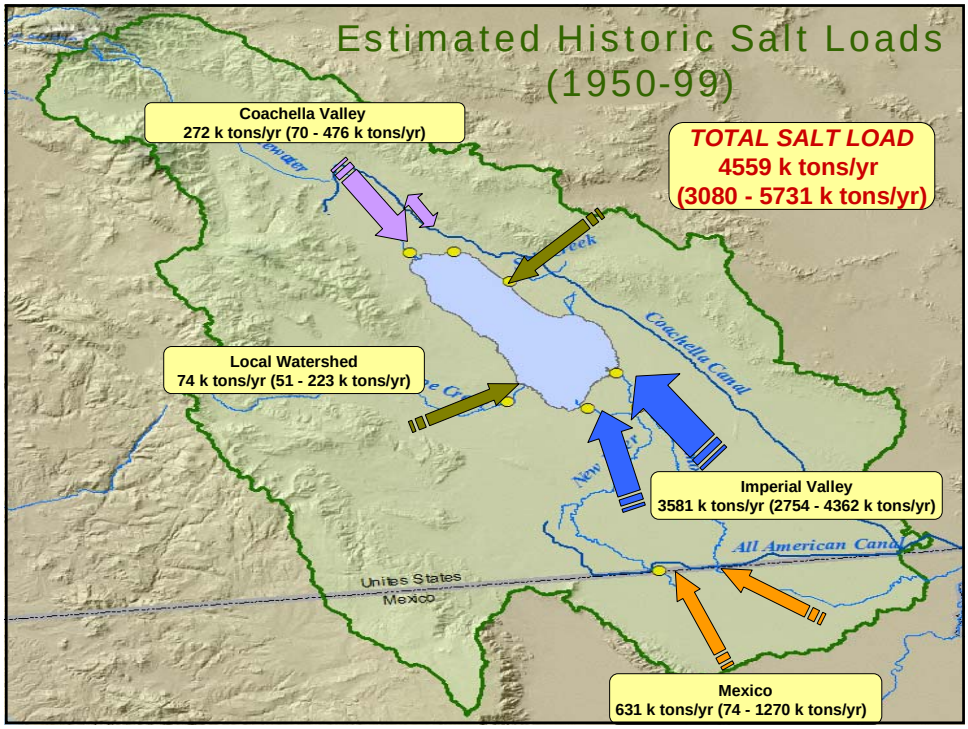
- **Mexico inflows from New and Alamo Rivers**
- **IID inflows from New River, Alamo River, direct drains**
- **CVWD inflows from Whitewater River, drains, and groundwater discharge/recharge**
- **Local watershed surface runoff and groundwater inflows**
- **Local evaporation rate**

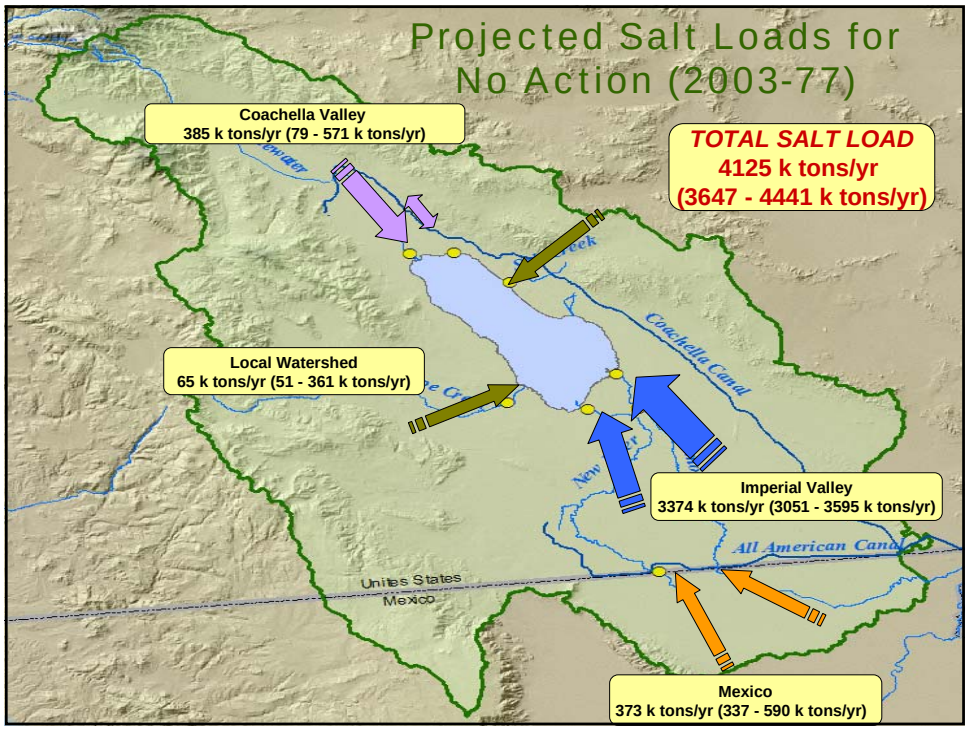
Possible Inflows to the Salton Sea Considering Future Uncertainty



Historic Salt Loads: Data Sources and Assumptions

- **Historical sources**
- **Changes from historical sources**
  - **Mexico**
  - **Agricultural drainage**
  - **Coachella Valley Water District groundwater management plan**
- **Will continue to work with Working Group to finalize range of salinity in the inflows for No Action Alternative and Range of Variability**


Estimated Historic Salt Loads
(1950-99)
Coachella Valley
272 k tons/yr (70 - 476 k tons/yr)
TOTAL SALT LOAD
4559 k tons/yr
(3080 - 5731 k tons/yr)
Local Watershed
74 k tons/yr (51 - 223 k tons/yr)
Coachella Canal
Imperial Valley
3581 k tons/yr (2754 - 4362 k tons/yr)
All American Canal
United States
Mexico
Mexico
631 k tons/yr (74 - 1270 k tons/yr)


Projected Salt Loads for
No Action (2003-77)
Coachella Valley
385 k tons/yr (79 - 571 k tons/yr)
TOTAL SALT LOAD
4125 k tons/yr
(3647 - 4441 k tons/yr)
Local Watershed
65 k tons/yr (51 - 361 k tons/yr)
Coachella Canal
Imperial Valley
3374 k tons/yr (3051 - 3595 k tons/yr)
All American Canal
United States
Mexico
Mexico
373 k tons/yr (337 - 590 k tons/yr)

Hydrologic Model Update

- CALSIM prototype/test network already developed
- Generalized model elements identified
  - Open water storage elements
  - Water treatment systems
  - Habitat wetlands
  - Air quality management
- Salt balance algorithm has been added to model
- Completed monthly simulation for 75 years

Next Steps for Hydrologic Modeling

- Finalize relationships for evaporation
- Refine monthly scale
- Calibrate/Verify
- Develop Stochastic interaction
- Model-focused meeting and demonstration on September 16, 2005