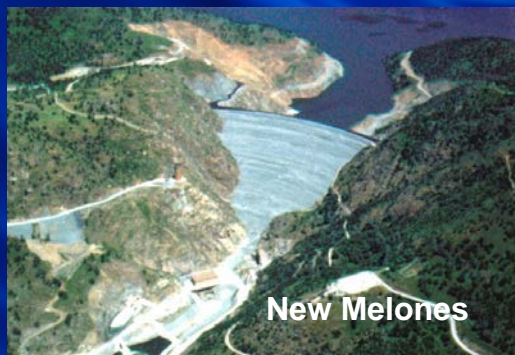


RECLAMATION

Managing Water in the West

Adequacy of SWRCB's Draft SED Update of Bay-Delta WQCP; Phase I San Joaquin River Flows Southern Delta Water Quality



March 20, 2013



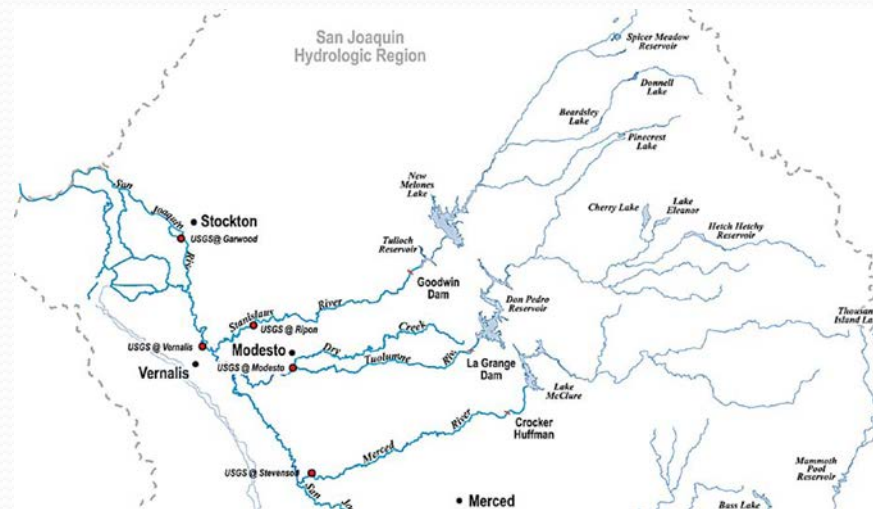
U.S. Department of the Interior
Bureau of Reclamation

Outline

- CEQA Inadequacies
- San Joaquin River (SJR) Flow Standard
 - Tributary Standard is Good Approach
 - Flawed Analyses Mask Impacts
 - Significant Impacts
 - Inadequate Water Rights Analyses
 - Insufficient Information to Balance Beneficial Uses
- Southern Delta Salinity Standard
 - Agreement with So. Delta Salinity Standard of ≥ 1.0 ds/m
 - Weakness: Same Implementation for all 3 Alternatives → No Appreciable Difference between Alternatives

SJR Flow Standard

- SED Approach appropriately apportions Responsibility to Tributaries
- Lack of Justification and Implementation Approach for 1000 cfs Base Flow at Vernalis

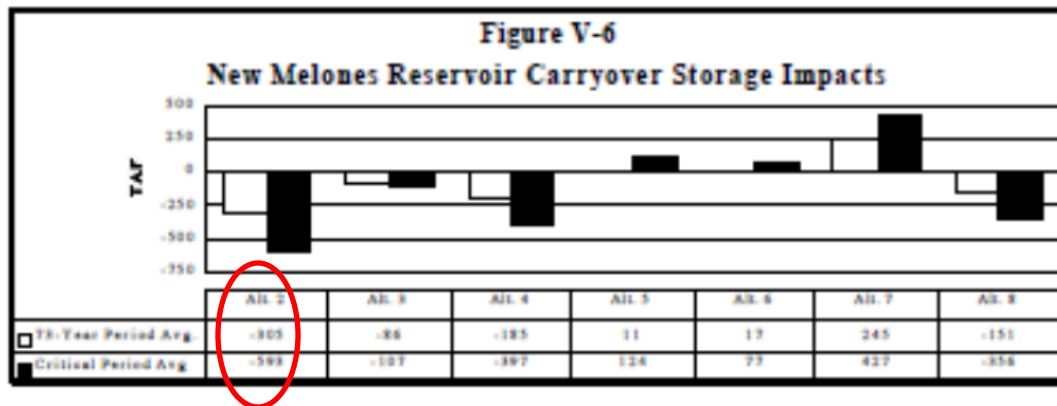


SJR Flow Standard

- Neither Baseline nor No Project Alternative Reflects Current Operations
- Modeling Issues with No Project Alternative:
 - No Basis for assumed full Implementation of D-1641, Table 3 from New Melones:
 - NM Permit Conditions did not Anticipate VAMP/SJRA expiration w/o SWRCB Assignment of Responsibility
 - Fall-Back to Table 3 only if SJRA terminated prematurely—This is NOT the case

SJR Flow Standard

- Modeling Issues with No Project Alternative:
 - SWRCB's 1995 WQCP EIR demonstrates NM cannot solely meet D-1641, Table 3:



- 2009 NMFS BiOp: “relying on New Melones Reservoir to provide the flows at Vernalis cannot be sustained” → adverse Impacts on CV Steel-head due to Temperature

SJR Flow Standard

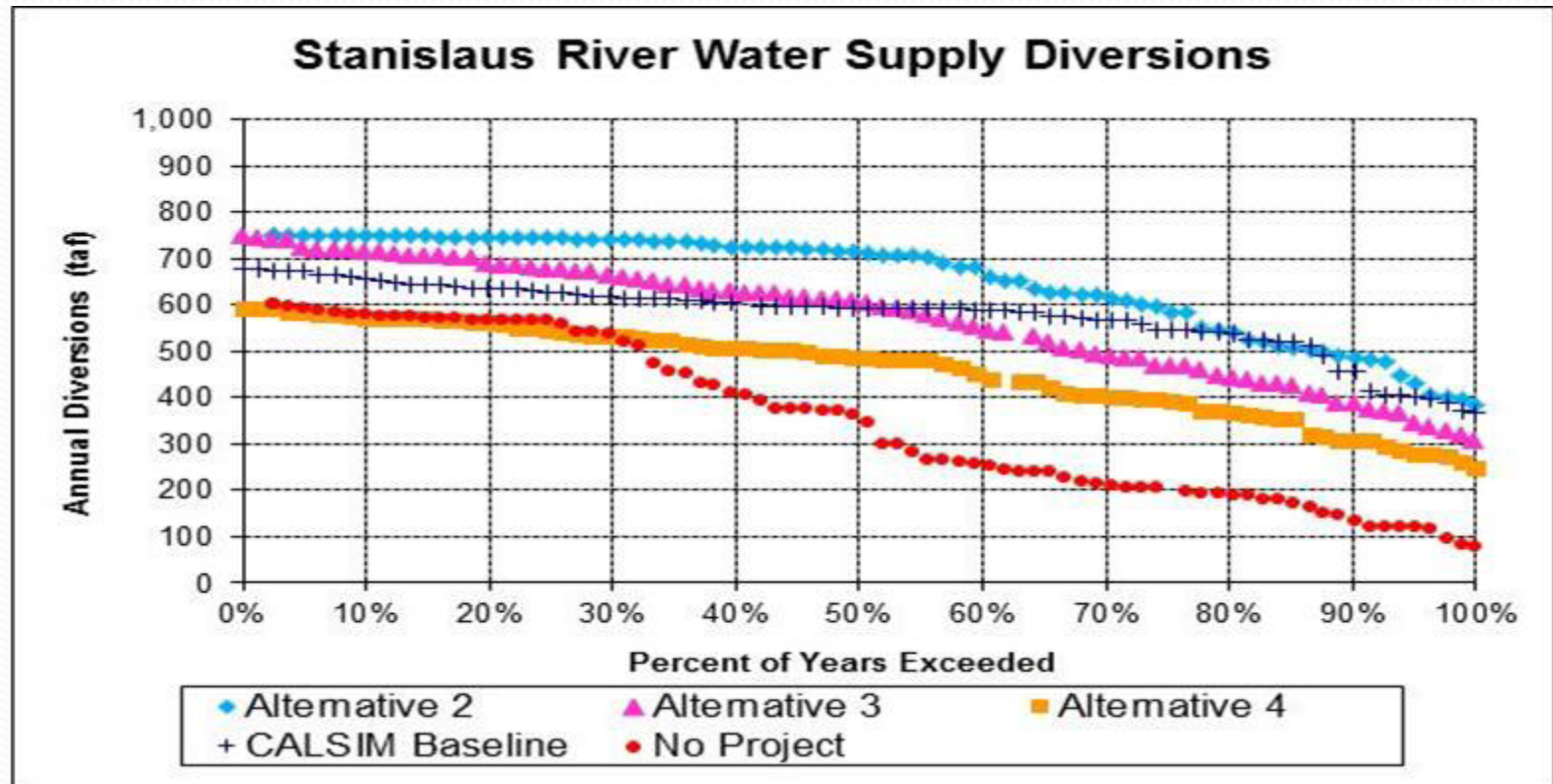
- Modeling Issues with No Project Alternative:
 - SWRCB Modeling is Inconsistent with 1988 Stipulation Agreement
 - Shortages to Senior Water Right Holders' (OID/SSJID) 600 TAF are NOT based on New Melones Index, but rather on inflow as specified in the 1988 Stipulation Agreement
 - Reclamation does NOT make Releases to meet Southern Delta Salinity Objectives directly; rather releases are made to meet Salinity Control Objectives at Vernalis
 - No Dissolved Oxygen Check
 - Prolonged drought operation is inconsistent with 2009 NMFS BiOp

SJR Flow Standard

- Problems with Alternative Analyses:
 - RPAs not modeled
 - SWRCB Modeling is Inconsistent with 1988 Stipulation Agreement
 - Modeling to keep Storage, i.e. Volume, in New Melones Consistent among Alternatives Masks Impacts of Alternatives

SJR Flow Standard: Significant Impacts

- Disagree with SED Assessment of Water Supply Impacts:



Reclamation

Comparison of CALSIM Modeling for New Melones Reservoir

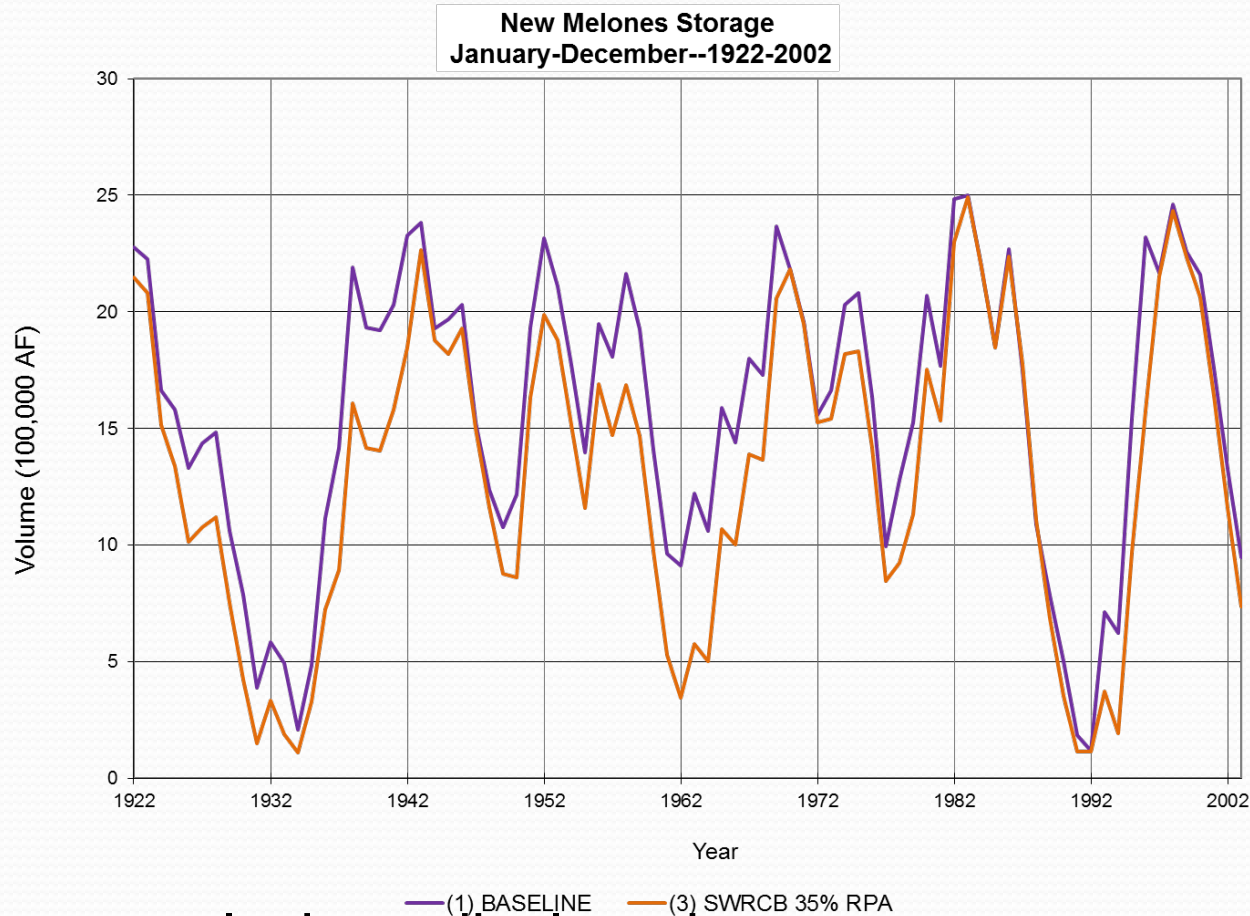
Key Assumptions	SWRCB's Modeling		Reclamation's Modeling	
	No Project-LSJR	Preferred LSJR Alternative	No Project – LSJR/Baseline	Preferred LSJR Alternative
Vernalis Spring Pulse Flow Target	D-1641, Table 3	Release of 35% Unimpaired Inflows, Feb-June	VAMP-like met with Merced ID Agreement	Release of 35% Unimpaired Inflows, Feb-June
NMFS Biop	Yes	No	Yes	Yes
OID/SSJID Shortages	New Melones Index	New Melones Index	88 Stipulation Agreement	88 Stipulation Agreement
DO Check	No	No	Yes	Yes
Prolonged Drought Biop Relaxation	Yes	Yes	No	No

Reclamation

Reclamation Modeling: Water Supply Impacts

- 35% Bypass of Unimpaired Inflow Alternative compared to Baseline/No Project Alternative
 - SEWD/CSJWCD Supply
 - Reduced from 115 TAF to 100 TAF averaged over all years (Contract Amount = 155 TAF)
 - Reduced from 36.8 TAF to 23.9 TAF averaged over drought periods (15% of contract supply)
 - Inadequate groundwater impact analysis

Reclamation Modeling: Storage Impacts



Inadequate analysis to disclose impacts to power, cold water pool and recreation

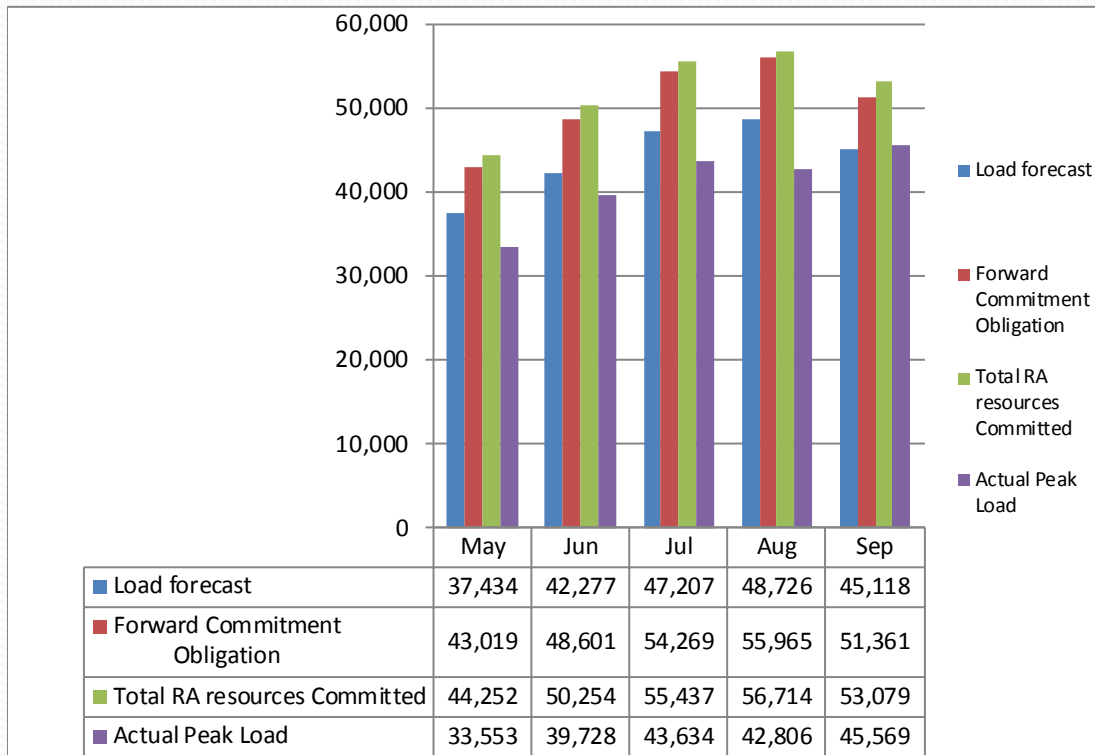
Reclamation

Power Impacts

- Reliability Organizations (NERC/WECC) are concerned with Reliability and Adequacy of Bulk Power System
- California has Resource Adequacy Mandate—15% Reserve Margin
- Chapter 14 and Appendix J ignore impact of SJR Alternative Flow Standards on Resource Adequacy

Resource Adequacy

Figure 1. Total CAISO Summer 2011 Forward Procurement Obligation and Forward Procurement vs. LSE Demand Forecast and Actual Monthly Peak Demand (MW)

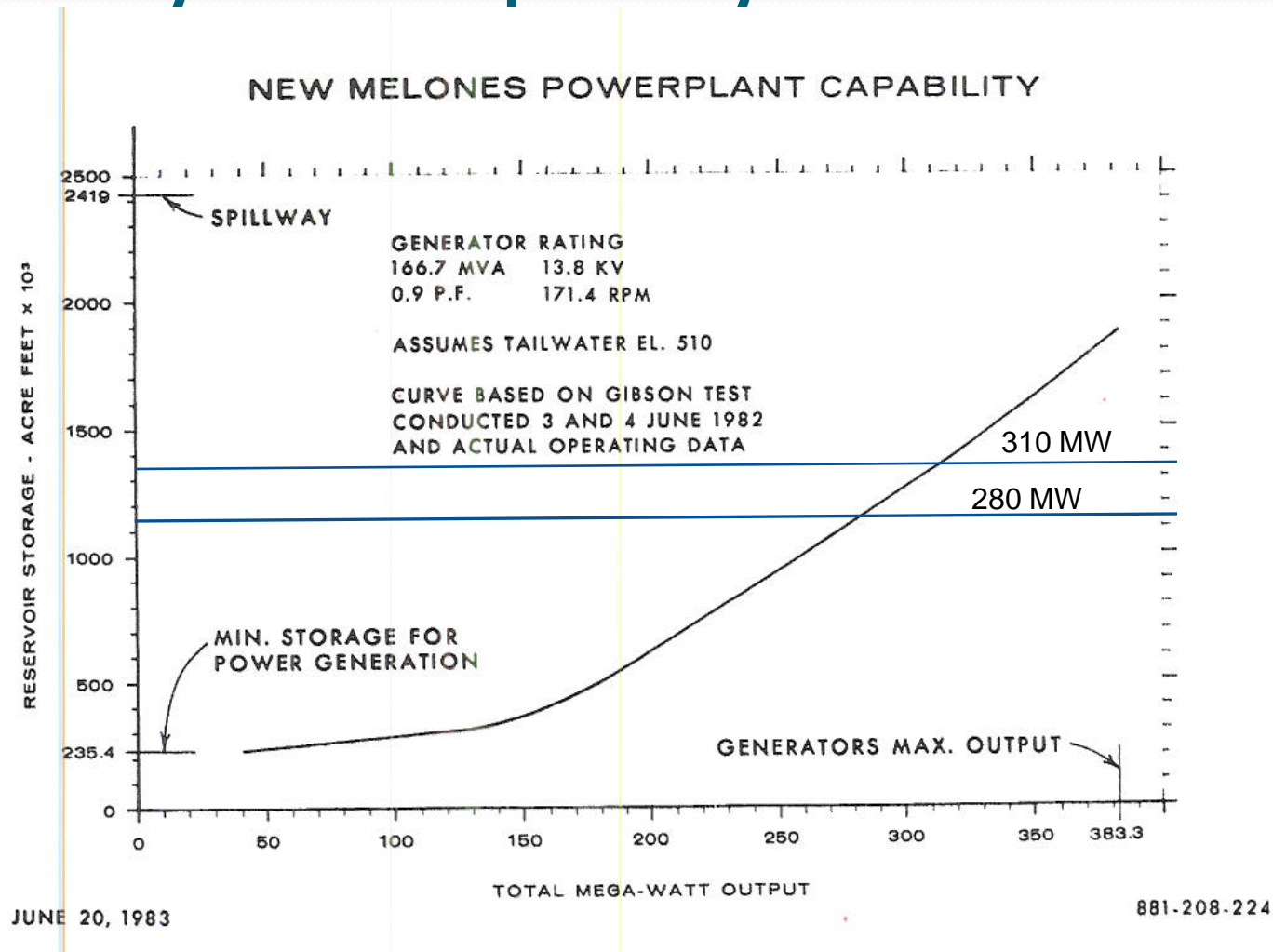


Source: Aggregated data compiled from CAISO MRTU Analysis and checked against Monthly CPUC and non-CPUC RA Filings

Power needed in Summer Months for Resource Adequacy Purposes

Reclamation

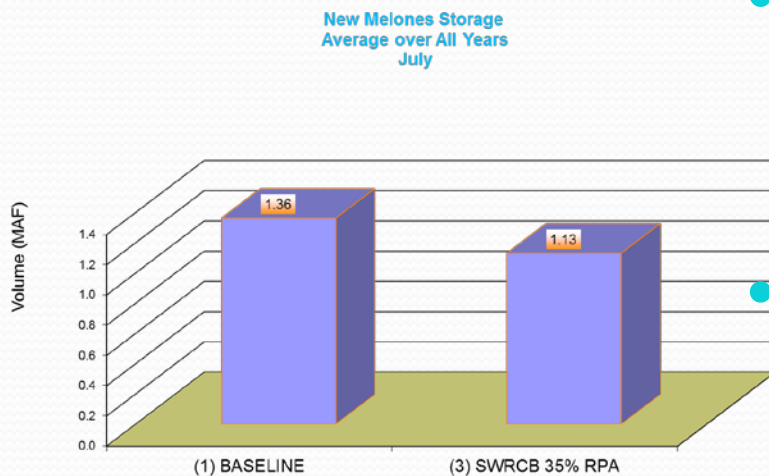
Lower Summer Storage → Less MW Hydro Capacity



Power Impacts

Summer Storage Reduced

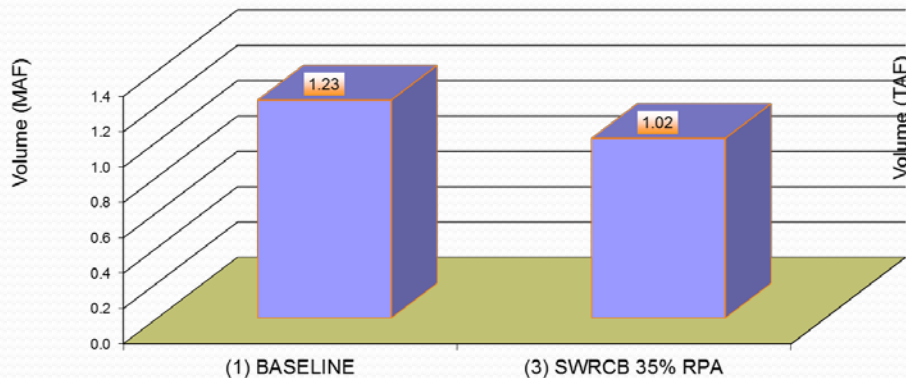
Peak Capacity Reduced



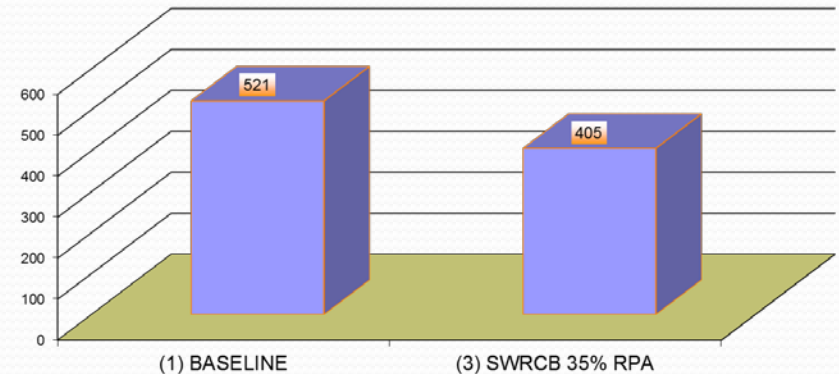
- At New Melones, average storage reduced from 1.36 MAF to 1.13 MAF → Reduction of Peak Capacity from 310 MW to 280 MW
- Impacts to Resource Adequacy
 - Summer peak hydro capacity reduced
 - 10% at NM on average
 - Droughts exacerbate problem
 - Increased Groundwater Pumping increases peak load

Cold Water Pool Impacts

New Melones Storage
Average over all Years
September



New Melones Storage
Average over Driest Years
September

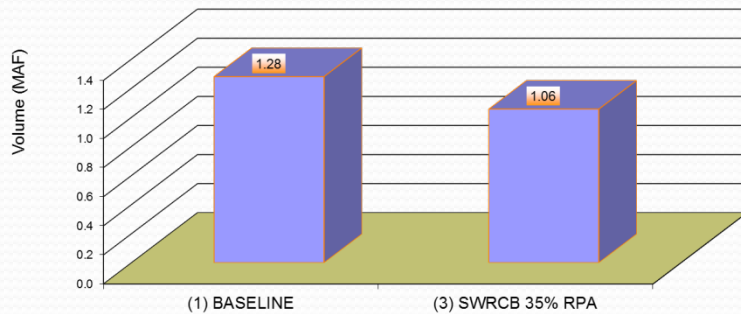


Potentially Significant Impacts to Cold Water Pool especially in Dry Years

Recreation Impacts

Reduced Summer Storage

Storage - New Melones Storage
All Years - Average
August



Glory Hole Recreation Area— New Melones



Impacts: Boating, Aesthetics

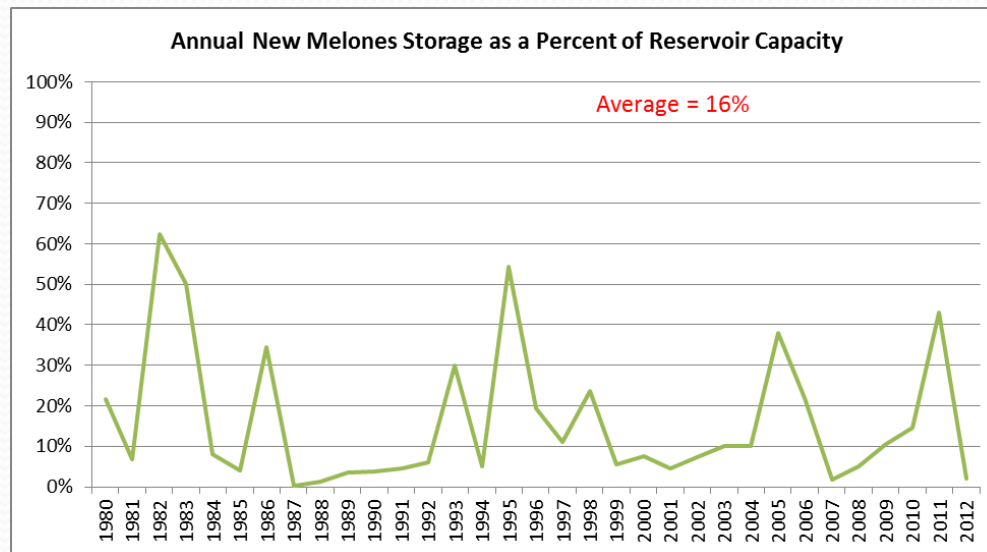
- Below Elev 975, 1.25 MAF, Angels Creek Boat Ramp Unusable
- Below Elev 900, 0.72 MAF, most Boat Ramps Unusable

Inadequate Water Rights Analyses

- Bypass of Unimpaired Inflow Standard
 - Computed inflow to New Melones is 26% less than Full Natural Flow
 - New Melones Water Right Holders adversely affected by Lack of Requirement on Upstream Reservoirs to Bypass Inflow
 - Some upstream water rights Junior to Reclamation's Water Rights on New Melones

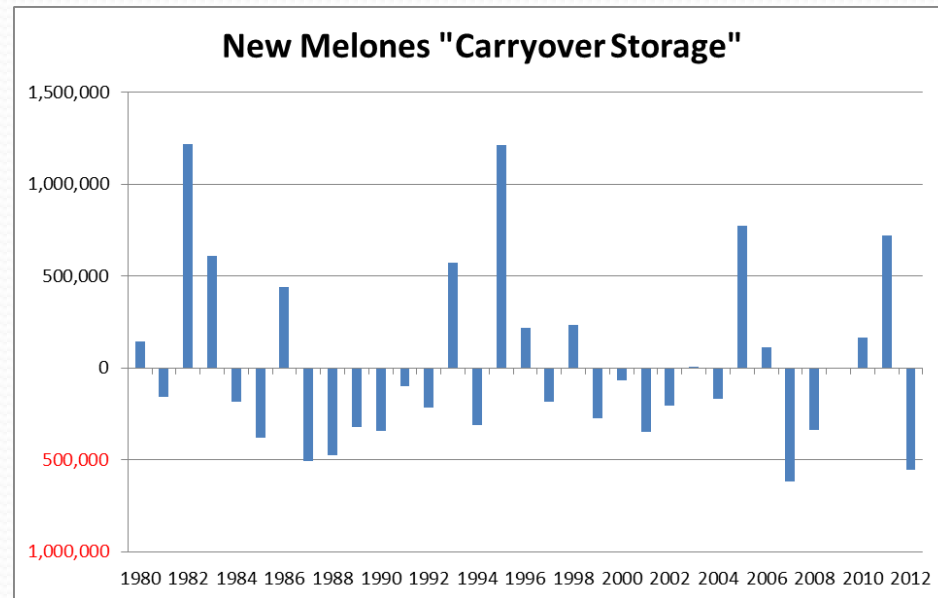
Inadequate Water Rights Analyses

- No Ability for Sustainable Reservoir Operations with Proposed Standard
 - New Melones' consumptive yield is 16% of its physical capacity



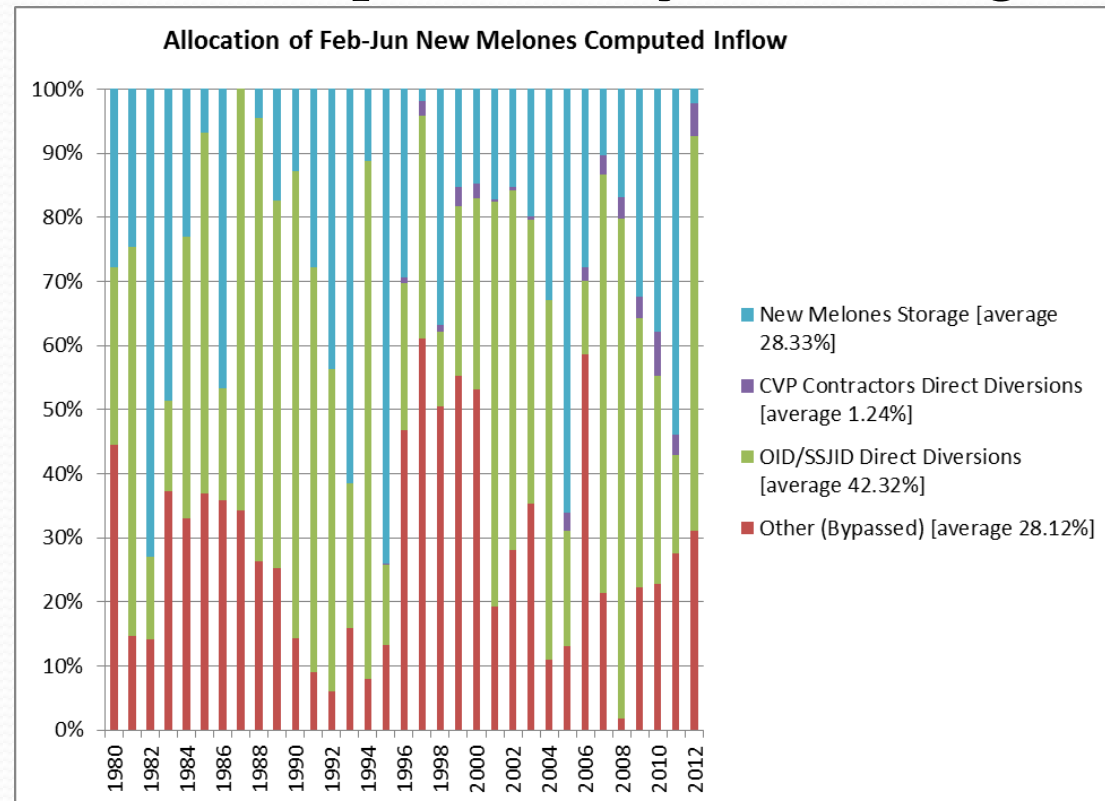
Inadequate Water Rights Analyses

- Carryover Storage will be impacted
- Historical Analysis of Carryover Storage → only occurs 39% of Time:



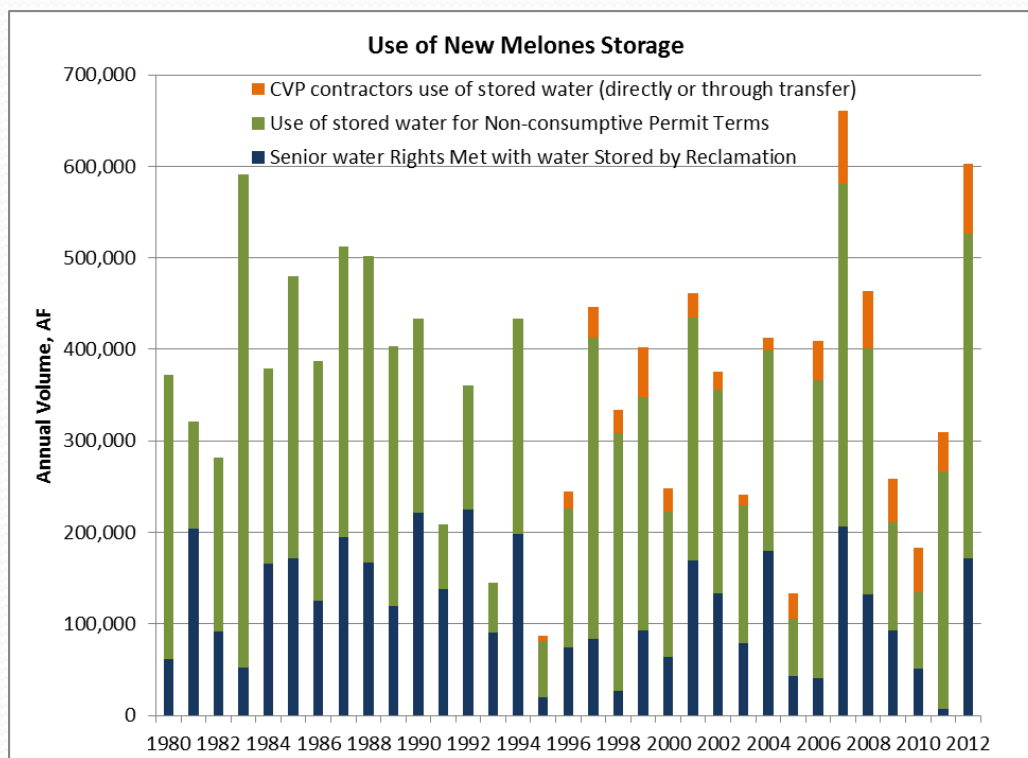
Inadequate Water Rights Analyses

- 35% Bypass Standard impacts Carryover Storage:



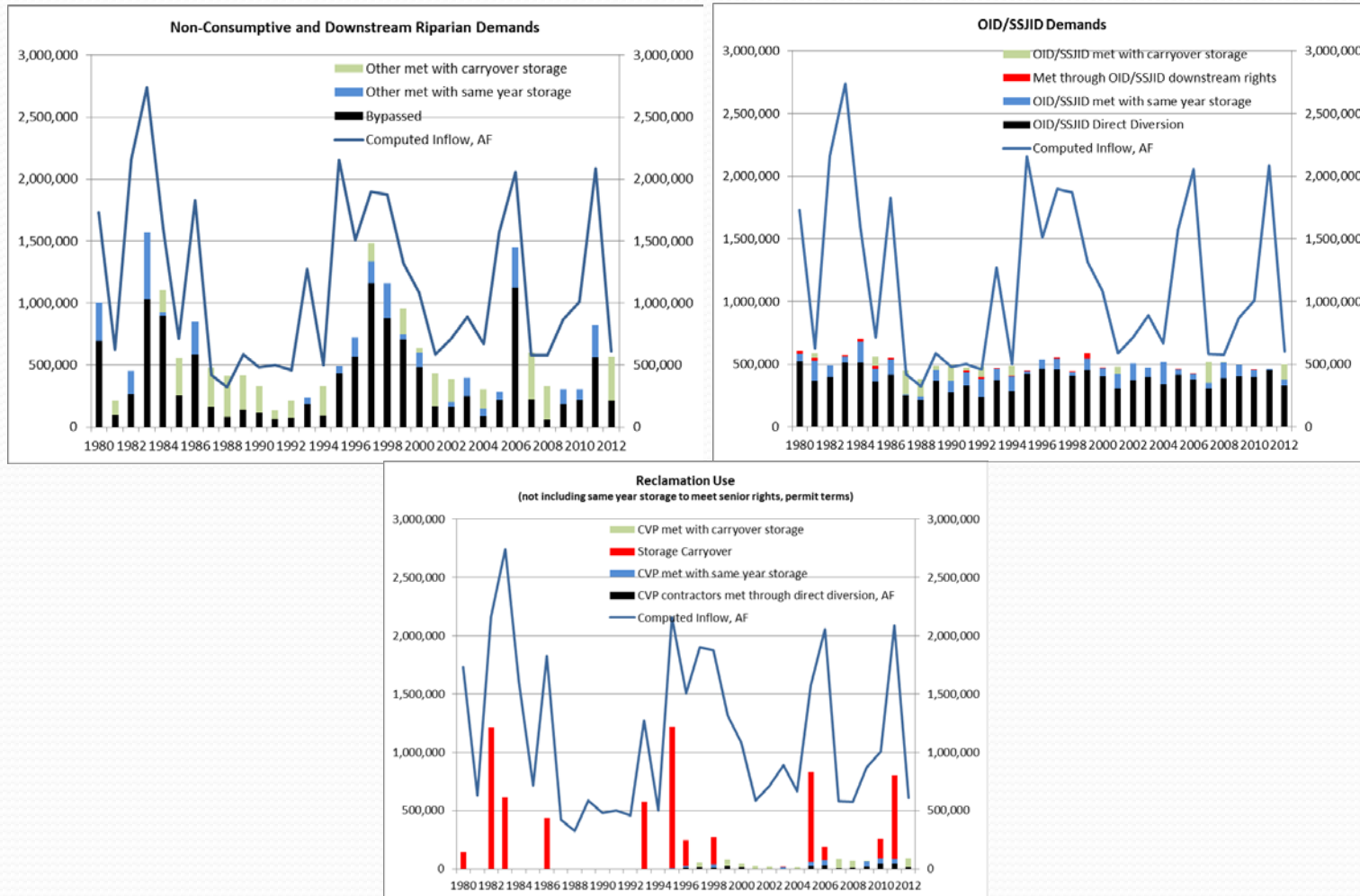
Inadequate Water Rights Analyses

- Historical Analysis → New Melones already Oversubscribed:



Inadequate Water Rights Analyses

- Historical NM Demands Stress Storage:



Reclamation

Insufficient Information to Balance Beneficial Use

- Lack of Nexus between 35% Bypass of Unimpaired Inflow and Viable Native Fish Production Objective
- Previous Standards did not include Pulse Flow Requirement in June → Significant Water Cost without Demonstrated Benefit
- SED Analyses Mask Impacts to Water Supply, Power, Cold Water Storage and Recreation → Lack of Tradeoff of Beneficial Uses Analysis

Southern Delta Salinity Standard

- ≥ 1.0 ds/m Standard more supportable than 0.7 ds/m Standard
- Implementation for All Alternatives is 0.7 ds/m at Vernalis + Temporary Barriers → no Differentiation in Alternatives
 - Inadequate from CEQA Standpoint
 - Results in New Melones Releases, which may not be needed to meet WQ → Potential for Non-Beneficial Use of Water
- No Analysis of Impacts from Dilution Flows

Conclusions

CEQA INADEQUACIES:

- LSJR Baseline, No Project and Alternative
 - Unrealistic modeling assumptions result in lack of analysis of impacts to water supply, power, cold water storage and recreation
 - Insufficient water rights analyses results in:
 - Impacts to senior water right holders before impacting junior water right holders
 - Unsustainable New Melones operations due to excessive storage releases needed to bypass unimpaired inflows
 - Insufficient information to balance beneficial uses
- SDWQ—No differentiation among alternatives