Expanded Banks

Expanded Banks Pumping Plant capacity was simulated in Scenarios 1A and 1B in the Gaming process. In the Early Stage 1 Game 1A, use of Expanded Banks capacity was governed by existing rules that allow use only when San Joaquin River flows are high (1/3rd of the San Joaquin flow can be pumped). Summer 1999 rules that allowed 500 cfs of additional pumping using the expanded capacity were also allowed. For late Stage 1 Game 1B, no restrictions were placed on the use of the Expanded Banks capacity (10,300 cfs) other than WQCP standards.

The major new source of water supply for the EWA and water users will be an Expanded Banks pumping capacity that enables taking more Delta water when inflows are high such as during winter storms. The Expanded Banks pumping capacity will increase the ability of the EWA to obtain water assets and for repayment of EWA debt prior to its realization.

Gaming simulations indicate that use of the Expanded Banks pumping capacity could substantially improve water supply and water supply reliability during and after EWA export restrictions. Higher exports particularly in winters of wetter years increased potential export, deliveries, and carryover storage in San Luis Reservoir. Higher export capacity after the spring VAMP export restriction (often April through June) allowed faster makeup of San Luis storage depleted during the export restrictions. The makeup was usually allowable from increased storage releases if sufficient supplies were available in upstream reservoirs. Such releases were often at a cost to water supply if the reservoirs did not refill the subsequent winter. Opportunities were sometimes available to backup water into upstream reservoirs during spring export restrictions, thus limiting the cost to water supply. This water then could be exported with Expanded Banks in summer. This action however contradicted objectives to increase outflow during spring export restrictions.

High export rates with use of the full capacity of the Banks pumping plant has in the past resulted in significant salvage or entrainment even under the high inflow test conditions. Application of Expanded Banks under lower inflows/outflows (in summers or winters of dry years) may have adversely increase entrainment and alter Bay-Delta habitat.

The following table provides a summary of Expanded Banks use in Games 1A and 1B, early and late Stage 1, respectively.

Summary of Expanded Banks Use

Year	Early Stage 1 (Game 1A)	Late Stage 1 (Game 1B)
1981	San Joaquin flows were adequate in portions of January, February, and March to use some of the expanded capacity (up to 8,400 cfs), however, San Luis Reservoir was already filled.	▪ Not needed in winter due to full San Luis Reservoir. ▪ Used extensively in July, but constrained partially by E/I ratio standard.
1982	The full-expanded capacity could be used in much of the winter; exports up to 10,300 cfs were carried out in portions of February and March. Partial use of the expanded capacity was employed in January.	▪ Used from November to February to fill San Luis Reservoir ▪ Used in June but partially constrained by E/I standard. ▪ Constrained in July by outflow limits. ▪ Used to near capacity in August and September.
1983	Full capacity was possible for most of the winter, however San Luis Reservoir was full. Some use in November and December.	▪ Used in October to fill San Luis Reservoir ▪ Used again in July and part of August to refill San Luis Reservoir.
1984	No expanded pumping allowed because of low San Joaquin flows.	▪ Not needed fall/winter. ▪ Used in summer to refill San Luis, but partially constrained by outflow and E/I limits. ▪ Exported Delta island storage, which in game was not constrained by standards.
1985	No expanded pumping allowed because of low San Joaquin flows.	▪ Used Expanded Banks fully from mid-Nov to mid-Dec. ▪ Used partially through January and part of February. ▪ Used in Jul-Aug to refill San Luis storage, but use limited by E/I and Outflow limits.
1986	Expanded capacity employed in February (partial) and March (full).	▪ Expanded Banks used through January and part of February, and then again in March to refill San Luis. ▪ Not used in summer because of outflow and E/I constraints.
1987	San Joaquin flows were adequate in portions of January, February, and March to use small amounts of the expanded capacity (up to about 7,500-8,000 cfs), however, E/I limits limited exports well below these levels.	▪ Expanded Banks used in part of Oct, but constrained by outflow and E/I limits. ▪ Used in January for EWA when E/I relaxed. ▪ Used again in July to refill San Luis Reservoir.
1988	San Joaquin flows were adequate in part of January to use small amounts of the expanded capacity (up to about 7,500 cfs).	▪ Expanded Banks used in January storm pulse ▪ Otherwise insufficient inflow available remainder of winter. ▪ Inflow and E/I were constraining in summer.
1989	No expanded pumping allowed because of low San Joaquin flows.	▪ Could be used in March and early April during storm pulse, but b(2) assets used to constrain exports. ▪ Expanded Banks used in July/August to make up storage in San Luis Reservoir.
1990	No expanded pumping allowed because of low San Joaquin flows.	▪ Expanded Banks used in part of January for water supply and EWA (via E/I relaxation) ▪ Outflow and E/I limits constrain use in summer.