1976 Delta Emergency Drought Barrier

Presentation by Melinda Terry, Manager

To

NDWA Special Board Meeting, July 27, 2021

Purpose of 1976 Drought Barrier

- Reduce Salinity Intrusion
- Preserve Reservoir Carryover Storage Conditions
- Installed Sept 1976 on Sutter Slough; removed in Dec 1976
- Steamboat Slough barrier proposed in 2014 and 2015; but not installed

1976 Barrier Assurances

- **Preparation** – DWR conducted extensive survey of existing diversion intakes (location, size, capacity, etc.) and released dye-marked juvenile salmon.
- **Mitigation** – Several portable pumps/power plants and overland pipe provided, and extra electricity costs paid by DWR to assure water availability; existing diversions monitored every day for functionality; water quality monitored every two weeks; passage thru middle of dam for fish; and installation of bouys, signage, and log booms for recreational boating.
- **Remediation** – DWR returned channel to prior condition at no cost to landowner or RD; reimbursed NDWA and RD for any legal, engineering, and manager costs associated with barrier project; and agreements executed with local agencies to hold them harmless from any loss, injury or expense from claim or demand from third parties due to installation.

Success of 1976 Barrier

- Estimated savings of 60,000 acre-feet per month of reservoir storage water
- Very little changes in EC/salinity conditions documented in the area upstream of the Rio Vista Bridge.
- Salinity above the confluence of Cache Slough and the Sacramento River remained less than 250 micromhos EC.
- No recorded evidence of erosion or sedimentation issues being aggravated by installation of the barrier.

Documented Adverse Impacts

- Increase in salinity occurred on Sacramento River downstream of Rio Vista
- Barrier created increased amplitude in tidal action
- Low tides were 0.9 to 1.6 ft lower at downstream face of closure
- High tides 0.1 to 0.5 ft higher
- Fall juvenile salmon detrimentally impacted when migration diverted from Sutter Slough to Delta Cross Channel
- Longer 4.5 mile trip for recreational boats to use alternative Steamboat Slough route

** Impacts to North Bay Aqueduct were not analyzed or mitigated*

*** Impacts to flood control were not analyzed or mitigated*

Barriers Proposed in 2014-15

- Despite prior assurances by DWR in 1976 to only install future drought barrier if EIR is completed, in 2014 and 2015 DWR proposed installing drought barriers with only a Negative Declaration.
- In 2014 and 2015, DWR failed to conduct any preliminary surveys of baseline conditions, such as existing diversion intakes, or water quality and surface elevations.
- In 2014 and 2015, DWR refused to sign the same barrier agreement it executed with NDWA in 1976 for Sutter Slough barrier.
- In 2014 and 2015 DWR failed to offer any of the same water quality and availability mitigations it provided in 1976.
- In 2014 and 2015 DWR refused to move location of proposed Steamboat Slough barrier slightly downstream in order to reduce adverse impacts on local diversion intakes.
- In 2014, DWR abandoned installation of barriers due to improved flows. In 2015, Steamboat barrier was not installed due to fishery concerns raised by CDFW.

New Delta Assurances Needed

- ***Monitoring/Criteria/Flows***– Before/during closure, enforceable salinity criteria that must be maintained, including minimum flow requirements.
- ***Protect Local Water Supply*** – Survey existing diversion locations, provide portable pumps/power, pay for extra power costs, breach barrier if necessary.
- ***Local Agency Agreements*** – Execute agreements with NDWA, CDWA, SDWA, and Reclamation Districts to: provide mitigations; hold them harmless from liability claims; and for State to commit to pay their legal, engineering, and manager costs related to closure.
- ***CEQA Analysis*** – Per prior DWR commitment, no barrier installation without approved EIR that fully analyzes: water supply/availability; water quality; flood control; navigation/marinas; erosion and sedimentation; fisheries; wildlife; etc.