North of the Delta Offstream Storage

Feasibility Investigation

June 2011

Primary Planning Objectives

**Improve Water Supply Reliability**
- How: Through additional surface storage capacity and integrated water system operations, which could improve water system flexibility and reliability for agricultural, urban, and environmental uses. Water stored in the winter during relatively higher flow conditions could allow additional water to be carried over in storage from year to year, helping mitigate the effects of drought and providing emergency water during a catastrophic event in the Bay-Delta or tributary watersheds.

**Improve Water Quality**
- How: Through dedicated water released from storage that flows to the Delta, which could result in supplemental fresh water flows and improved drinking and environmental water quality during periods when quality is diminished.

**Increase Fish Survival**
- How: Through the support of specific ecosystem restoration and enhancement actions accomplished by dedicating water in storage for purposes that benefit anadromous fish and other aquatic species. These actions could improve environmental conditions, including improved cold water pool management to benefit fish during extended droughts, and flow modifications to manage river temperatures, habitat conditions, flow stability, and Delta X2.

**Provide Flexible Hydropower Generation**
- How: Through hydropower generation timed to support integration of renewable energy sources. Flexible hydropower generation associated with offstream storage could be quickly ramped up or down to complement other renewable energy sources to support reliable operation of the power grid.

**Develop Additional Recreation**
- How: Through the development of recreation facilities along the perimeter of the proposed reservoir. Recreation opportunities include boating, camping, picnicking, swimming, fishing, and hiking.

**Provide Incremental Flood Damage Reduction**
- How: Through reduced flows on local streams provided by storage.

Secondary Planning Objectives

- Increase the usable surface storage capacity that can be quickly accessed and tapped by users in the Bay-Delta system.
- Increase surface storage north of the Delta.
- Improve water management for beneficial ecological health and improve environmental water quality during periods when quality is diminished.
- Increase fish survival.
- Increase the usable surface storage capacity that can be quickly accessed and tapped by users in the Bay-Delta system.
- Increase surface storage north of the Delta.
- Improve water management for beneficial ecological health and improve environmental water quality during periods when quality is diminished.
- Increase fish survival.
- Increase the usable surface storage capacity that can be quickly accessed and tapped by users in the Bay-Delta system.
- Increase surface storage north of the Delta.
- Improve water management for beneficial ecological health and improve environmental water quality during periods when quality is diminished.
- Increase fish survival.

Background

The Bureau of Reclamation and the California Department of Water Resources (DWR), working in cooperation with other federal, state, and local agencies, are studying alternative plans to increase surface storage north of the Sacramento-San Joaquin Delta. The CALFED Bay-Delta Programmatic Record of Decision (2000) identified five surface storage locations statewide for further consideration and analysis. The North-of-the-Delta Offstream Storage (NODOS) Investigation is evaluating the potential for surface storage to support restoration of ecological health and improve water management for beneficial uses in the Bay-Delta system.

The NODOS Investigation is developing an Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to analyze the proposed project alternatives in compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The EIS/EIR will evaluate a No Action/No Project Alternative and three Comprehensive Alternative Plans. In addition, a Feasibility Report (FR) will evaluate and present the ability of the alternatives to satisfy the NODOS planning objectives.
Alternative Plans

Alternative plans include the proposed development of Sites Reservoir, which would be located approximately 10 miles west of the town of Maxwell, California. The alternative plans also include the development of a Sacramento River Intake/Release Facility in Colusa County across from the Moulton Weir and a Delevan Pipeline that is approximately 13.5-miles long to convey water between the Sacramento River and Sites Reservoir. Each alternative plan is formulated to meet the planning objectives described previously.

No Action/No Project Alternative

No actions would be taken to provide storage north of the Delta to meet the planning objectives.

ALTERNATIVE A: 1.27 MAF Sites Reservoir with Delevan Pipeline

- 1.27 MAF (million acre-feet) Sites Reservoir with conveyance to and from the reservoir provided by the existing Tehama-Colusa Canal and Glenn Colusa Irrigation District Canal
- New Delevan Pipeline (2,000-cfs diversion/1,500-cfs release)
- New hydropower facilities
- Ecosystem enhancement actions to support anadromous and endemic fish populations

ALTERNATIVE B: 1.81 MAF Sites Reservoir with Release-only Delevan Pipeline

- 1.81 MAF Sites Reservoir with conveyance to and from the reservoir provided by the existing Tehama-Colusa Canal and Glenn Colusa Irrigation District Canal
- New release-only Delevan Pipeline (1,500-cfs release)
- New hydropower facilities
- Ecosystem enhancement actions to support anadromous and endemic fish populations

ALTERNATIVE C: 1.81 MAF Sites Reservoir with Delevan Pipeline

- 1.81 MAF Sites Reservoir with conveyance to and from the reservoir provided by the existing Tehama-Colusa Canal and Glenn Colusa Irrigation District Canal
- New Delevan Pipeline (2,200-cfs diversion/1,500-cfs release)
- New hydropower facilities
- Ecosystem enhancement actions to support anadromous and endemic fish populations

Alternatives Considered and Eliminated From Further Detailed Analysis

Initially, 52 alternative reservoir sites were considered before identifying Sites Reservoir as the preferred location for additional storage. The iterative plan formulation and screening process is documented in the Initial Alternatives Information Report (2006) and Plan Formulation Report (2008).