



Floodplain Interrupted: The Story of the Cache Creek Settling Basin

- WHAT:** Cache Creek Settling Basin
YEAR BUILT: 1938; reclassified as a dam in 1992
For a Chronology of Modifications, see reverse
SIZE: 3,600 acres (per design)
LOCATION: East of Woodland, near where Cache Creek now flows into the Yolo Bypass

PURPOSE

A feature of the State Plan of Flood Control, the Settling Basin was designed to control sediment deposition and increase sediment storage capacity. The Basin is currently designed to handle 30,000 cfs, representing a 10-year level of protection.

In 1992, the basin was modified to include 50-year storage capacity with an average of 340 acre-feet of sediment accumulation per year. Currently the basin provides an average trapping efficiency of 55 percent, but the weir can be raised by six feet when it becomes less than 30 percent. This is expected to occur approximately in 2017.

BENEFITS FROM CURRENT DESIGN

- Sediment disposition in the Yolo Bypass would inundate and render useless 435 acres of abandoned industrial waste oxidation ponds owned by the City of Woodland.
- Backwater effects caused by the sediment deposited in the Yolo Bypass would require the following modifications to the Sacramento River Flood Control Project:
 - Yolo Bypass levees would need to be raised a maximum of 2.2 feet from .8 miles downstream of I-5, upstream to the Fremont Weir.
 - Knights Landing Ridge cut levees would need to be raised 1.8 feet.
 - Sacramento River levees would need to be raised a maximum of 1 foot from the Fremont Weir to the Sacramento Bypass.
 - Dredging in the Sacramento River System and San Francisco Bay System would be decreased annually by 88 and 7 acre-feet, respectively.

ISSUES WITH CURRENT DESIGN

- A series of modifications since original construction has created barriers within the natural Cache Creek floodplain. This is especially true along the west levee of the Settling Basin and the west levee of the Yolo Bypass.
 - The Settling Basin impedes the west to east conveyance of floodwaters originating from Cache Creek, resulting in flood depths of 10 to 12 feet in an area that includes commercial and residential development, along with critical transit infrastructure (Interstate 5).

(over)

- In June 2008, FEMA determined that none of the Basin's levees qualify for certification. As such, they will not be included in hydraulic analysis for revisions to Yolo County's Flood Insurance Rate Maps. This will result in a substantially deeper floodplain for the City of Woodland, especially if the weir is raised an additional six feet as planned.

CACHE CREEK LEVEES & SETTLING BASIN CHRONOLOGY OF MODIFICATIONS

1938 – Construction of Initial Basin completed

1940 – West levee moved West 400-feet

1943 – C.C. Levees constructed from mouth of Basin to Yolo

1950 – Basin modified for design flow of 24,000 cfs with Cobble Weir set at El. 28 (NAVD)

1961 – C.C. Levees extended approx. 3 mi. upstream of Yolo & Basin modified for design flow of 30,000 cfs

1973 – Cobble Weir raised 2 feet to El. 30 (NAVD)

1992 – Basin levees raised to present height; West levee moved west 2,500 feet; and new outlet weir constructed for 30,000 cfs at El. 35 (NAVD)

2017 – Outlet weir authorized to be raised to El. 41 (NAVD)