

Fall Head of Old River

Year	Installation			Notched	Removal		
	Started	Closed	Completed		Started	Breached	Completed
1968	30-Sep	No Data	3-Oct	No Data	15-Nov	No Data	21-Nov
1969	(ii)	(ii)	(ii)	N/A	N/A	N/A	N/A
1970	1-Oct	No Data	6-Oct	No Data	13-Nov	No Data	14-Nov
1971	24-Sep	No Data	1-Oct	No Data	8-Nov	No Data	12-Nov
1972	25-Sep	No Data	29-Sep	No Data	7-Nov	No Data	10-Nov
1973	1-Oct	No Data	5-Oct	No Data	14-Nov	No Data	15-Nov
1974	12-Sep	No Data	18-Sep	No Data	1-Nov	No Data	9-Nov
1975	17-Sep	No Data	26-Sep	No Data	1-Nov	No Data	4-Nov
1976	28-Oct	No Data	1-Nov	No Data	22-Nov	No Data	23-Nov
1977	No Data	No Data	27-Oct	No Data	No Data	No Data	5-Dec
1978	(ii)	(ii)	(ii)	N/A	N/A	N/A	N/A
1979	No Data	No Data	1-Oct	No Data	No Data	No Data	29-Nov
1980	(ii)	(ii)	(ii)	N/A	N/A	N/A	N/A
1981	No Data	No Data	15-Oct	No Data	No Data	No Data	25-Nov
1982	(ii)	(ii)	(ii)	N/A	N/A	N/A	N/A
1983	(ii)	(ii)	(ii)	N/A	N/A	N/A	N/A
1984	5-Sep	No Data	8-Sep	No Data	No Data	No Data	19-Oct
1985	(i)	(i)	(i)	N/A	N/A	N/A	N/A
1986	(ii)	(ii)	(ii)	N/A	N/A	N/A	N/A
1987	9-Sep	No Data	11-Sep	No Data	No Data	No Data	28-Nov
1988	22-Sep	No Data	28-Sep	No Data	No Data	No Data	2-Dec
1989	27-Sep	No Data	28-Sep	No Data	27-Nov	No Data	30-Nov
1990	10-Sep	No Data	11-Sep	No Data	No Data	No Data	27-Nov
1991	9-Sep	No Data	13-Sep	No Data	22-Nov	No Data	27-Nov
1992	8-Sep	No Data	11-Sep	No Data	30-Nov	No Data	4-Dec
1993	08-Nov (vi)	No Data	11-Nov	No Data	3-Dec	No Data	7-Dec
1994	6-Sep	No Data	8-Sep	No Data	28-Nov	No Data	30-Nov
1995	(ii)	(ii)	(ii)	N/A	N/A	N/A	N/A
1996	30-Sep	No Data	3-Oct	No Data	18-Nov	No Data	22-Nov
1997	(ii)	(ii)	(ii)	N/A	N/A	N/A	N/A
1998	(ii)	(ii)	(ii)	N/A	N/A	N/A	N/A
1999	(i)	(i)	(i)	N/A	N/A	N/A	N/A
2000	27-Sep	No Data	7-Oct	No Data	27-Nov	No Data	8-Dec
2001	24-Sep	No Data	6-Oct	No Data	22-Nov	22-Nov	2-Dec
2002	24-Sep	No Data	4-Oct	No Data	11-Nov	12-Nov	21-Nov
2003	2-Sep	15-Sep	18-Sep	16-Sep	3-Nov	4-Nov	13-Nov
2004	7-Sep	27-Sep	29-Sep	28-Sep	1-Nov	2-Nov	12-Nov
2005	19-Sep	28-Sep	30-Sep	29-Sep	7-Nov	8-Nov	15-Nov
2006	(iii)	(iii)	(iii)	N/A	N/A	N/A	N/A
2007	5-Oct	17-Oct	18-Oct	18-Oct	9-Nov	10-Nov	29-Nov
2008	1-Oct	16-Oct	16-Oct	16-Oct	3-Nov	3-Nov	9-Nov
2009	(iii)	(iii)	(iii)	N/A	N/A	N/A	N/A
2010	(iii)	(iii)	(iii)	N/A	N/A	N/A	N/A

Fall Head of Old River

Year	Installation			Notched	Removal		
	Started	Closed	Completed		Started	Breached	Completed
2011	(iii)	(iii)	(iii)	N/A	N/A	N/A	N/A
2012	(iii)	(iii)	(iii)	N/A	N/A	N/A	N/A
2013	(iii)	(iii)	(iii)	N/A	N/A	N/A	N/A
2014	22-Sep	1-Oct	2-Oct	1-Oct	10-Nov	11-Nov	15-Nov
2015	3-Sep	13-Sep	17-Sep	No Data	12-Nov	12-Nov	18-Nov
2016	15-Sep	27-Sep	30-Sep	27-Sep	10-Nov	11-Nov	21-Nov
2017	26-Sep	13-Oct	16-Oct	N/A	13-Nov	13-Nov	27-Nov
2018	18-Sep	2-Oct	2-Oct	N/A	5-Nov	5-Nov	13-Nov
2019	(ii)	(ii)	(ii)	N/A	N/A	N/A	N/A
2020	(xx)	(xx)	(xx)	N/A	N/A	N/A	N/A
2021	(xx)	(xx)	(xx)	N/A	N/A	N/A	N/A

- i. Not installed upon DFG's request.
- ii. Not installed due to high San Joaquin River flows.
- iii. Not installed because existing flows and dissolved oxygen levels in the San Joaquin River were sufficient for Chinook Salmon.
- iv. Not installed in accordance with Wanger decision to protect Delta Smelt.
- v. Not installed due to uncertainty about the benefits of installing the barrier to salmonid survival through the Delta.
- vi. Installation delayed due to high flows.
- vii. Completion delayed due to high flows.
- viii. Started south abutment construction to replace culverts, using barge and crane from shoreline.
- ix. Installed non-physical "Bubble Barrier" as a pilot test to prevent salmon from entering Old River.
- x. Not installed non-physical "Bubble Barrier" as planned due to high velocity currents in the San Joaquin River that posed excessively dangerous conditions for divers and ruled out the possibility of installing the necessary equipment on the channel bottom.
- xi. Only above water portion of boat ramps constructed due to high flows. North abutment not installed until full closure of barrier.
- xii. The flashboard structure washed out due to high flows and will be re-constructed at a later date. The weir section elevation had to be reduced to accommodate the high flow. All 6 culverts were in tidal position (closed).
- xiii. The flashboard structure was washed out earlier in the year and the California Department of Fish and Game did not required a notch this year due to high flows.
- xiv. All 6 culvert flap-gates were tied open.
- xv. The weir was raised by one foot.
- xvi. Barrier was breached on an emergency basis, but complete remove wasn't done until providing permit compliance of complete removal to the Corps.
- xvii. Partial barrier closed
- xviii. Fully barrier closed
- xix. Open all year
- xx. Not installed as it is not required in the NMFS BiOp on Long-term Operations of the CVP and SWP.