

Table 18

**EFFECT OF RESERVOIR REGULATION ON FLOOD PEAKS AND DAMAGES**  
**Columbia River Basin**

Water Year	Maximum Annual Mean Daily Peak <sup>1</sup> @The Dalles (kcfs)		Damages Prevented (\$1 million)		Water Year	Maximum Annual Mean Daily Peak <sup>1</sup> @The Dalles (kcfs)		Damages Prevented (\$1 million)	
	Unreg	Observed	Lower Columbia <sup>2</sup>	Columbia Basin <sup>3</sup>		Unreg	Observed	Lower Columbia <sup>2</sup>	Columbia Basin <sup>3</sup>
1948	1010	1010	*	*	1976	637	419	15.65	43.08
1949	660	624	0.67	*	1977 <sup>5</sup>	276	183	0.00	0.00
1950	823	744	9.80	*	1978	565	313	6.00	30.61 <sup>4</sup>
					1979	482	306	1.50	4.65
1951	672	602	0.80	*	1980	544	341	5.16	15.26 <sup>R</sup>
1952	579	561	0.34	*					
1953	672	612	1.18	*	1981	579	436	10.91	45.26 <sup>R</sup>
1954	590	560	0.26	*	1982	759	422	15.22	78.62
1955	614	551	0.62	*	1983	732	400	18.48	131.00 <sup>R</sup>
					1984	628	376	10.71	107.29
1956	940	823	25.00	37.67	1985	550	274	10.45	23.46
1957	820	705	6.60	11.11					
1958	735	593	3.55	7.83	1986	719	388 <sup>R</sup>	0.24 <sup>R</sup>	72.06 <sup>R</sup>
1959	642	555	0.88	2.6	1987 <sup>5</sup>	439	284	0.00	9.09
1960	493	470	0.08	0.58	1988 <sup>5</sup>	342	236	0.00	2.74
					1989	512	312	6.30	37.10
1961	789	699	6.50	7.7	1990	511	372	1.66	15.75
1962	503	460	0.09	1.79					
1963	481	437	0.03	0.65	1991	568	348	2.64	101.16
1964	764	662	7.60	22.91	1992 <sup>5</sup>	328	232	0.00	0.71
1965	669	520	1.44	7.18	1993	602	382 <sup>R</sup>	0.00 <sup>R</sup>	81.37
					1994 <sup>5</sup>	381	224	0.00	11.74
1966	455	396	0.00	0.43	1995	552	296	0.03	61.54
1967	781	622	14.21	20.80					
1968	533	404	0.26	1.07	1996	719	456	4.32 <sup>R</sup>	227.03 <sup>R</sup>
1969	628	449	2.61	5.51	1997	898	571	48.33	378.64
1970	634	429	1.16	6.34	1998	617	442	1.44	88.09
					1999	715	379	0.17	95.97
1971	740	557	8.49	25.76	2000 <sup>5</sup>	450	375	0.00	35.33
1972	1053	618	213.10	260.49					
1973 <sup>5</sup>	402	221	0.00	0.52	2001 <sup>5</sup>	327	174	0.00	21.56
1974	1010	590	239.73	306.36					
1975	669	423	9.41	40.97					

<sup>1</sup> Observed discharges are preliminary values calculated from project data.

<sup>2</sup> Damages are for the Columbia River below McNary Dam. [Dollar values are for the year of the flood. Willamette excluded.]

<sup>3</sup> Totals are damages prevented by major projects above The Dalles during the spring and summer runoff. Damages prevented in Canada and/or by levees and channel improvements are not included.

<sup>4</sup> Damages are based on the flood of December 1977.

<sup>5</sup> No flood control operations [i.e., unregulated flow does not exceed 450 kcfs at The Dalles].

<sup>R</sup> Revised