Year	Hatchery Load lbs/year	Flow at USGS cfs	TP mg/m3	% TP > 8 mg/m3
1990	755	137	9.1	58
1991	745	138	7.8	43
1992	708	141	8.3	63
1993	271	146	7.8	46
1994	188	138	7.9	38
1995	307	120	8.2	54
1996	251	125	7.2	21
1997	170	131	6.5	3
1998	189	111	6.3	5
1999	199	105	6.3	4
2000	203	101	6.5	12
2001	212	113	7.5	33

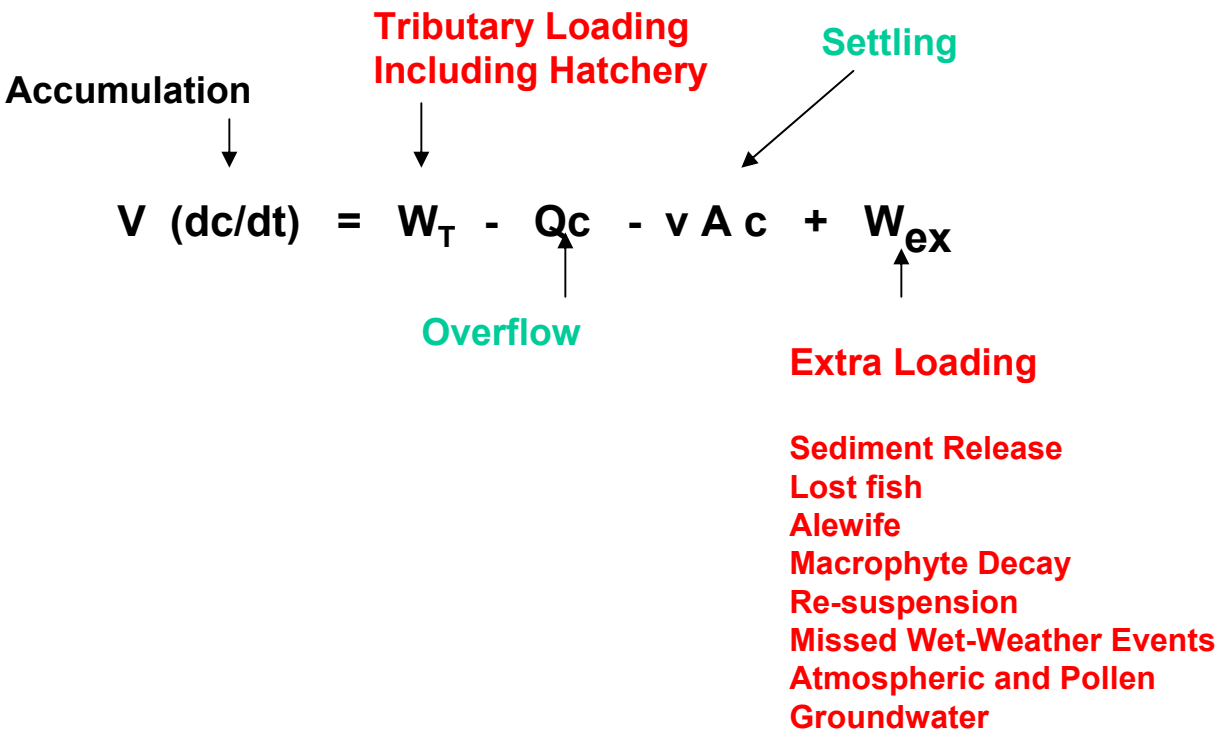
Table 1. Long-Term Pattern of Hatchery Loading, Platte River Flow, Lake TP, and % > 8 mg/m3.

Number	Description	K&E (1980)	Current	Proposed for 2002 Hatchery	Tributary	Wet-Events	Lake
1	Platte River at Burnt Mill Rd below Bronson Lake					x	
2	Platte River at Fewins Road	x			x		
3	Brundage Creek near mouth	x			x		
4	Stanley Creek at Carmean Road					x	
5	Brundage Creek at Carmean Road					x	
6	Kinney Creek at Carmean Road					x	
7	Brundage Spring diversion to Hatchery		x	x			
8	Brundage Creek diversion to Hatchery		x	x			
9	Platte River diversion to Hatchery		x	x			
10	Inlet to Sedimentation Pond		x	x			
11	Discharge from Sedimentation Pond		x	x			
12	Platte River at US-31 below Hatchery	x			x	x	
13	Upstream Cater Creek at County 669					x	
14	Carter Creek at Brownell Rd near mouth	x			x	x	
15	Platte River Pioneer Road	x			x	x	
16	Collison Creek near mouth	x			x	x	
17	Platte River at USGS (Indian Hill Road)	x	x		x	x	
18	North Branch at Deadstream Road	x	x		x	x	
19	North Branch at Hooker Road					x	
20	Lake Outlet at M-22	x			x		
21	Platte Lake at center-deep Station	x	x				x

	Samples	
Hatchery: 5 Locations. Twice per Week. 52 Weeks per Year	1560	
Tributaries: 9 Locations. Once per Week. 52 Weeks per Year.	1404	
Wet Events: 12 Locations. 3 Events. 6 Samples per Event	648	
Lake: 52 Samples per Year. 8 Depths per Sample.	1248	
All samples measured in triplicate.	4860	Total

Table 2. Proposed Sampling Locations and Frequency for 2002.

Mass Balance Equation:



First Order Linear Differential Equation with Variable Coefficients

Solve Numerically Using Euler's Method

Table 3. Components of Mass Balance Model for Lake TP.

Decaying Macrophytes

Area of Macrophytes = 50 acres

Density of Macrophytes = 150 gm DW/m^2

P Content of Macrophytes = 0.15 % P

Potential P from Decaying Macrophytes =

50 (43,560) (0.09092) (150) (0.0015) /1000 = 45 kg

Atmospheric

Rainfall 30 (in/yr) = 0.76 m/yr

Lake Area 2526 acre = 10222025 m^2

TP Content = 20 mg/m^3

(0.76) (10222025) (20) / 1000000 = 155 kg

Table 4. Estimation of Macrophyte and Atmospheric TP Loading