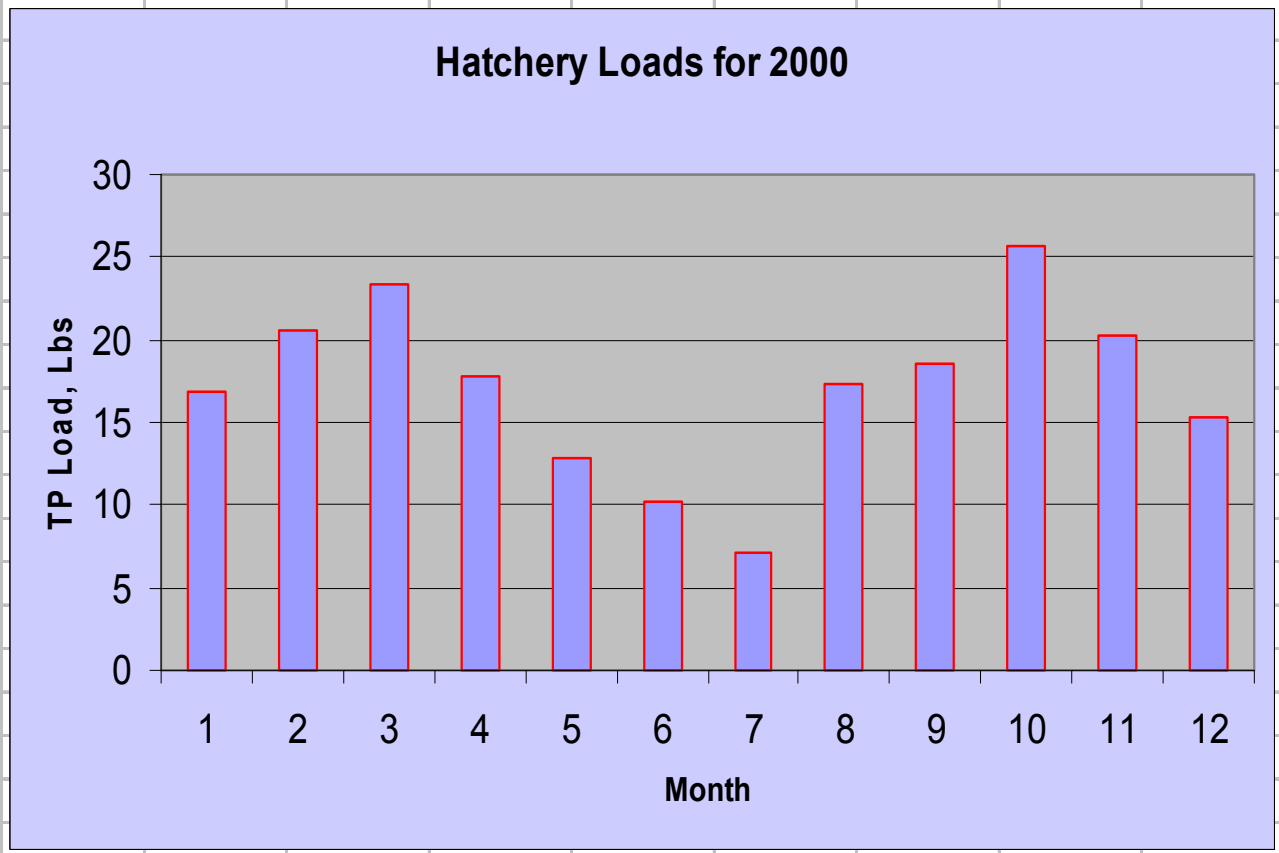


Figure 1. Monthly Hatchery Total Phosphorus Load for 2000

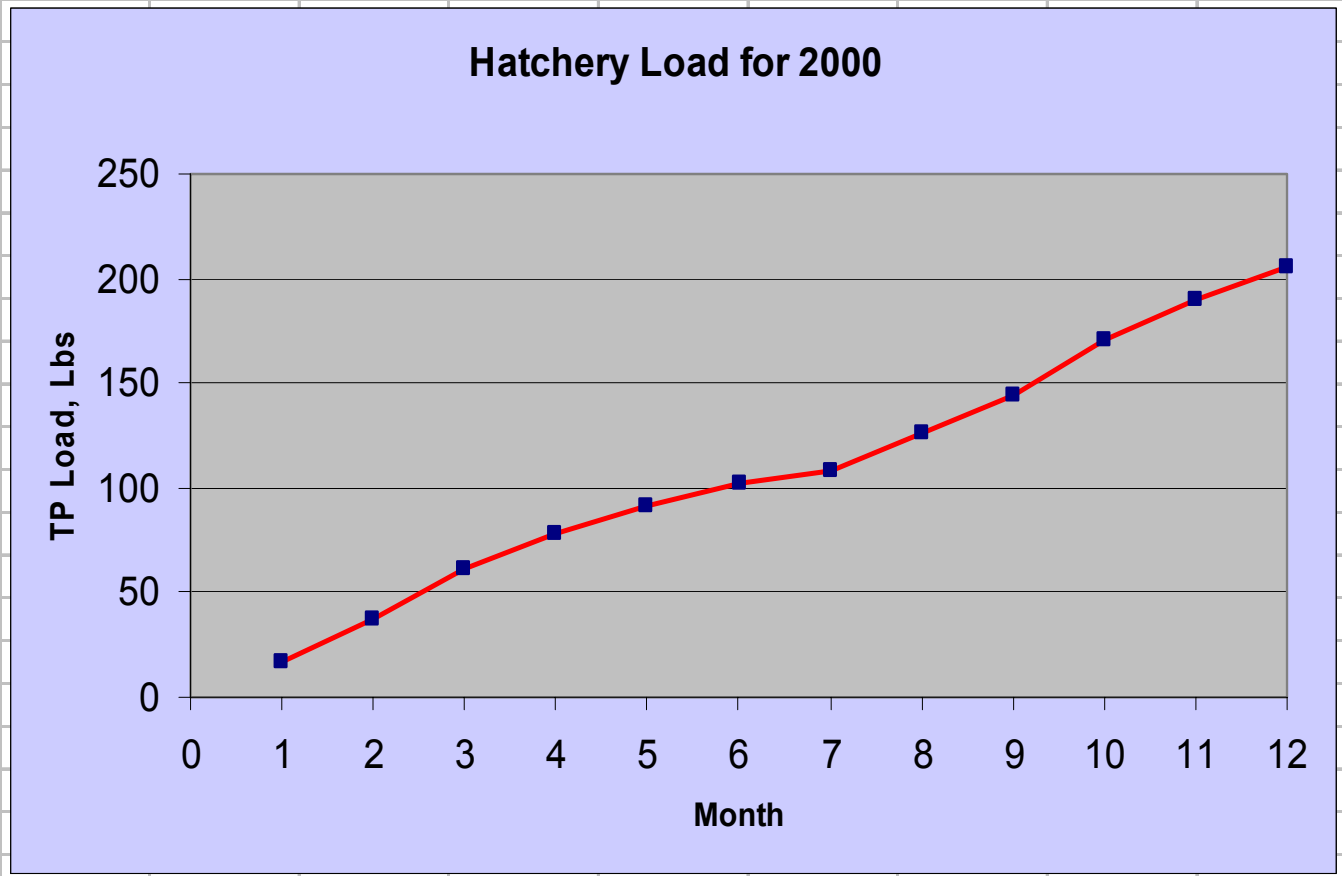


Figure 2. Accumulative Total Phosphorus Load for Platte Lake for 2000

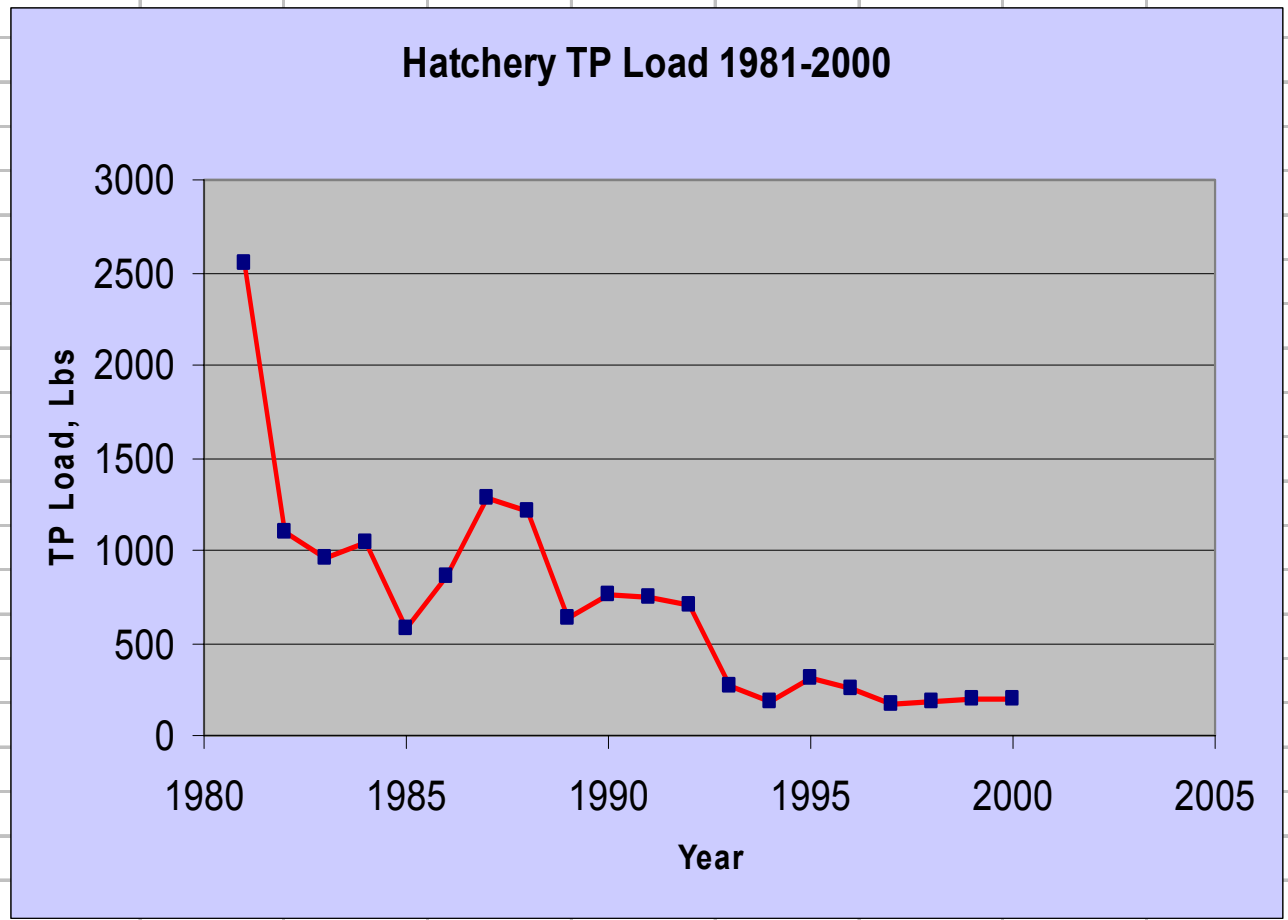


Figure 3. Historical Hatchery Total Phosphorus Loads to Platte Lake

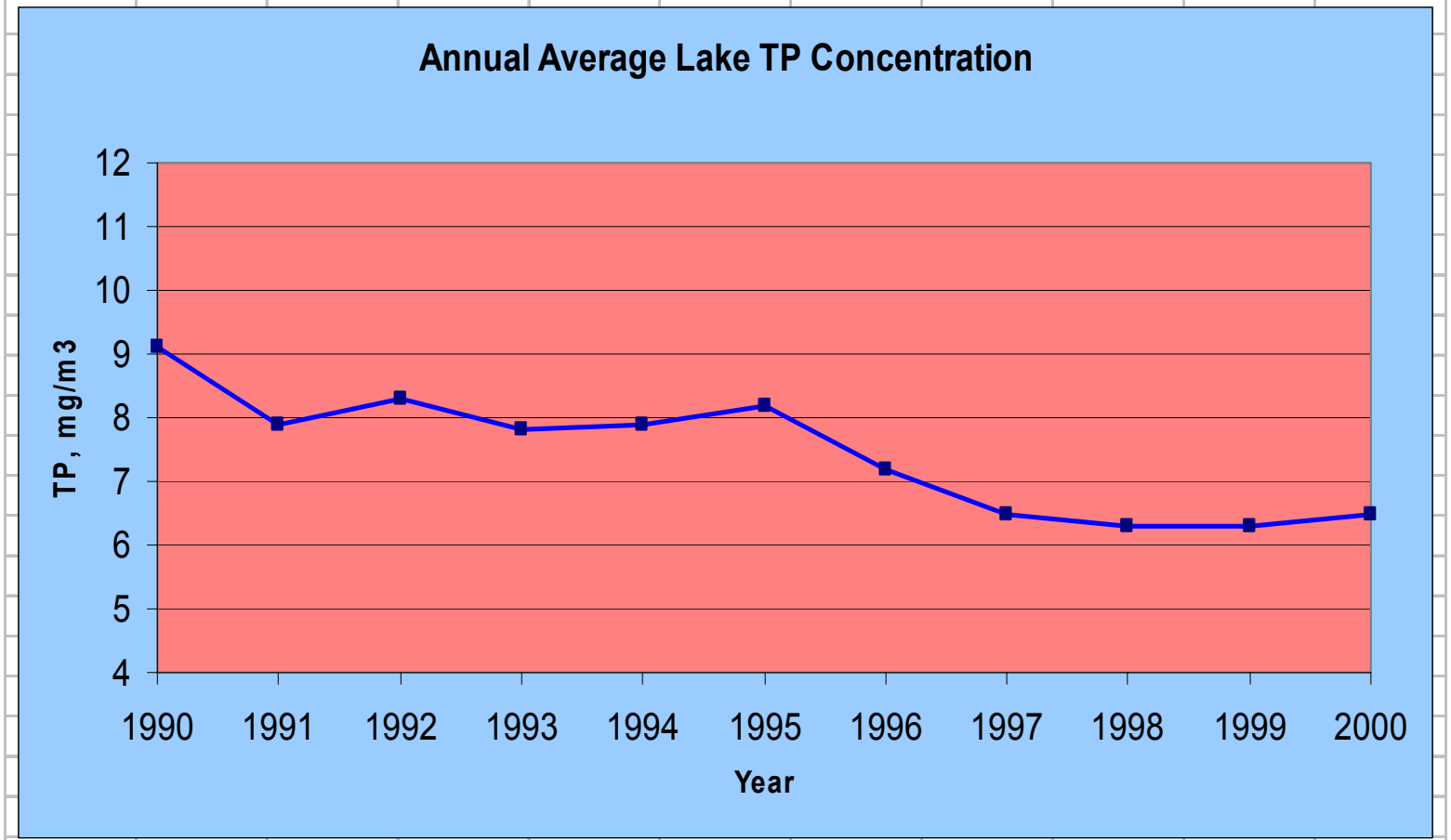


Figure 4. Historical Annual Average Total Phosphorus Concentrations in Platte Lake

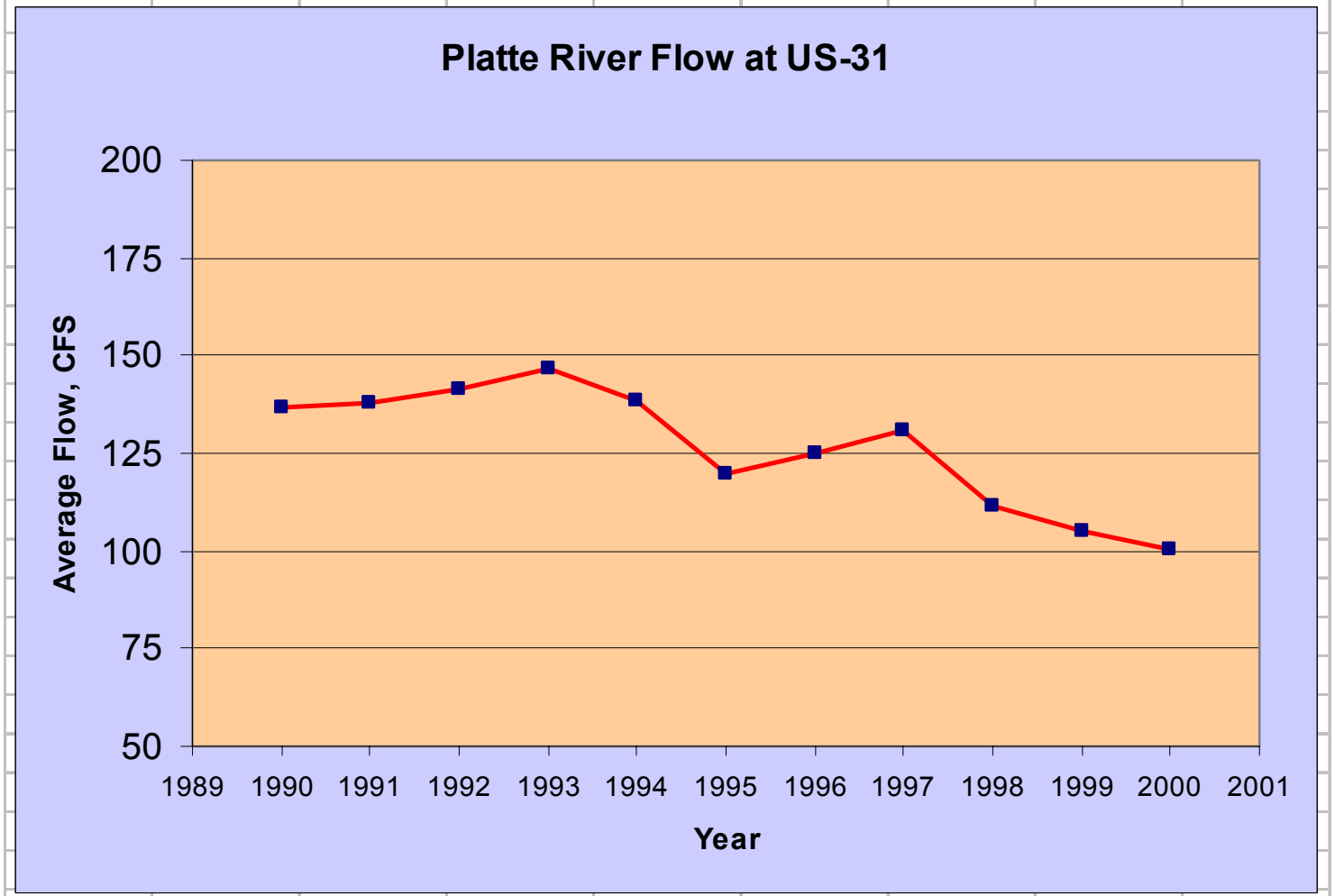


Figure 5. Historical USGS Platte River Flows at US-31

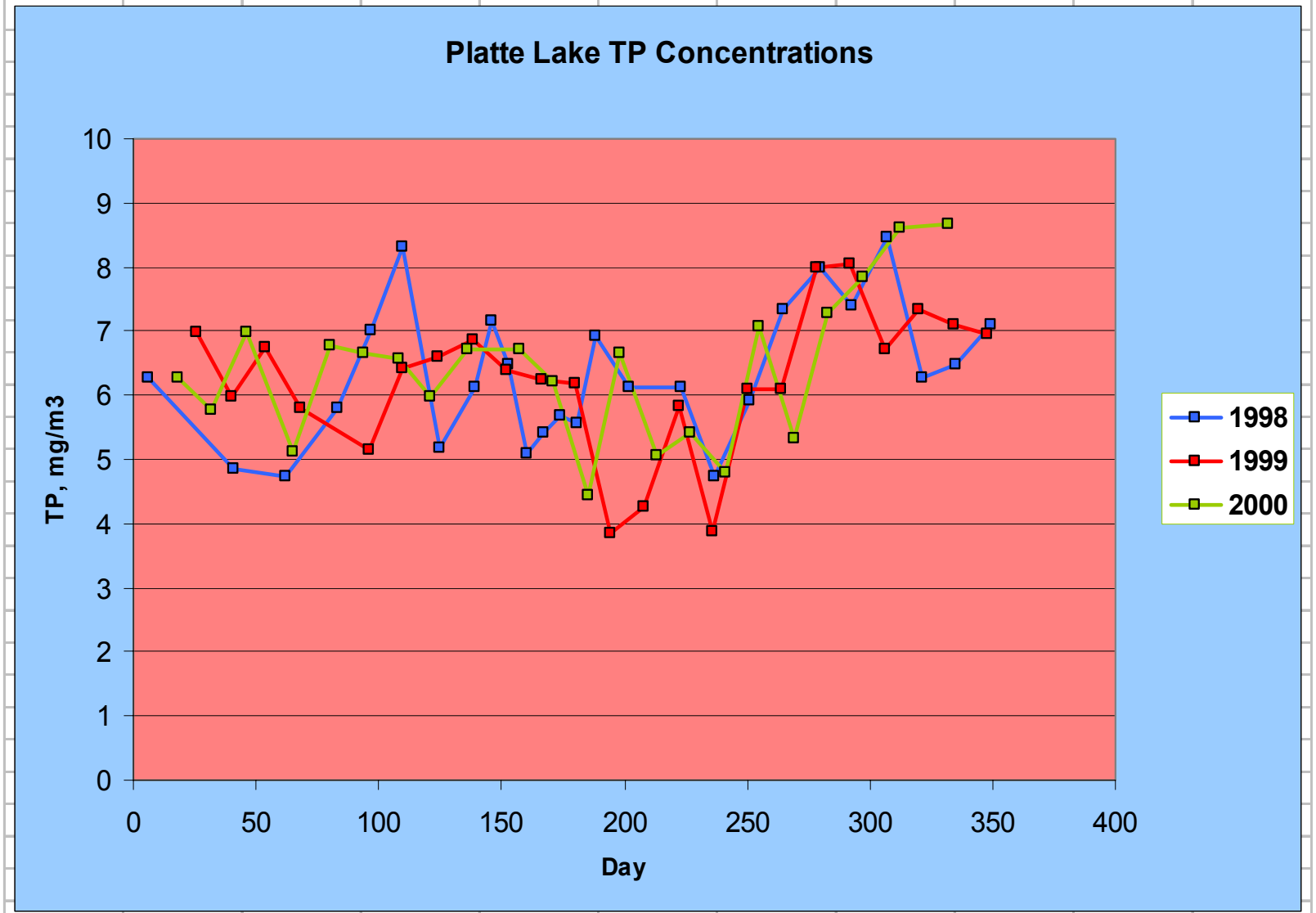


Figure 7. Annual Variation of Volume-Weighted Total Phosphorus Concentrations in Platte Lake

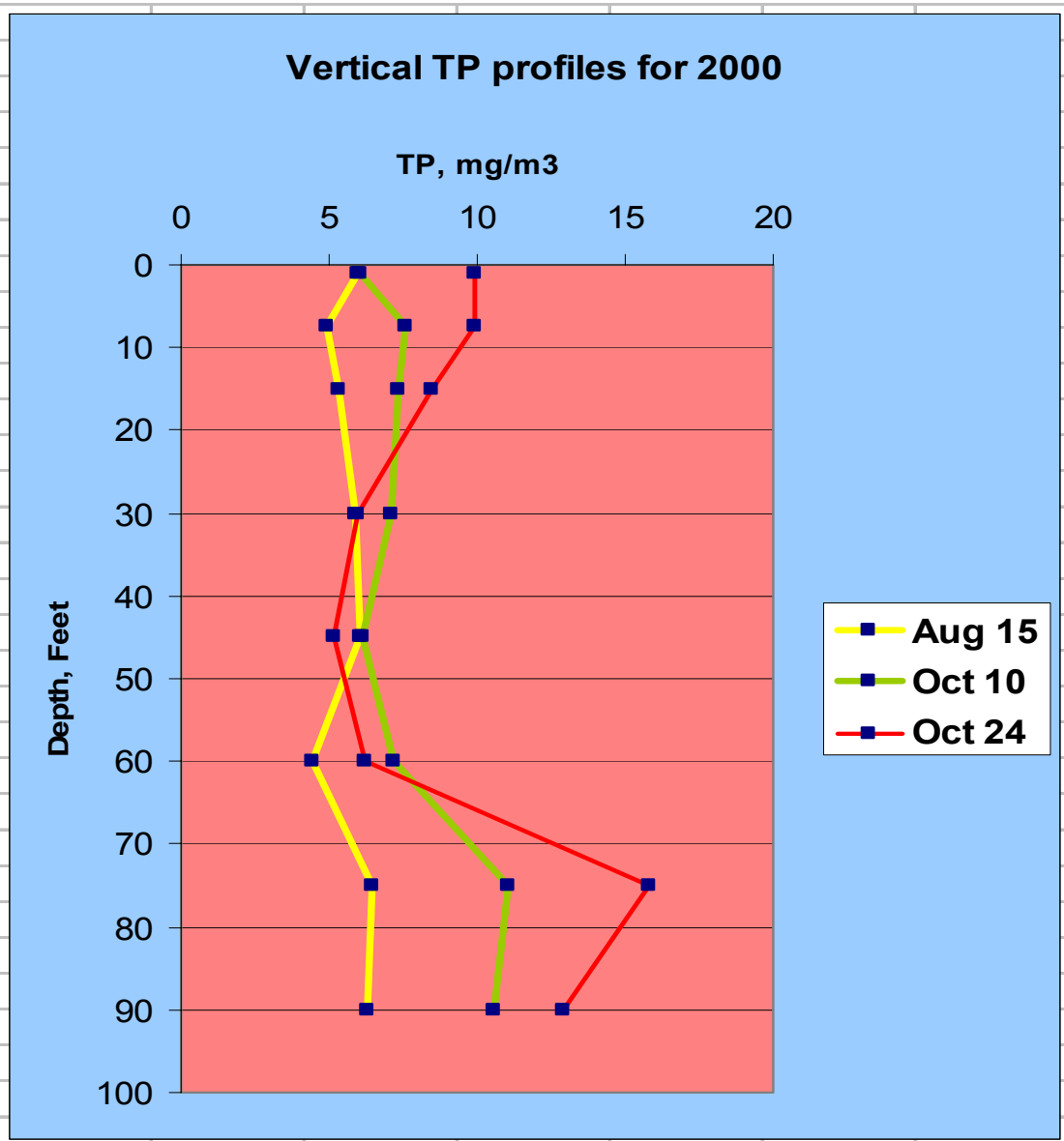


Figure 8. Vertical Profiles of Total Phosphorus in Platte Lake in 2000

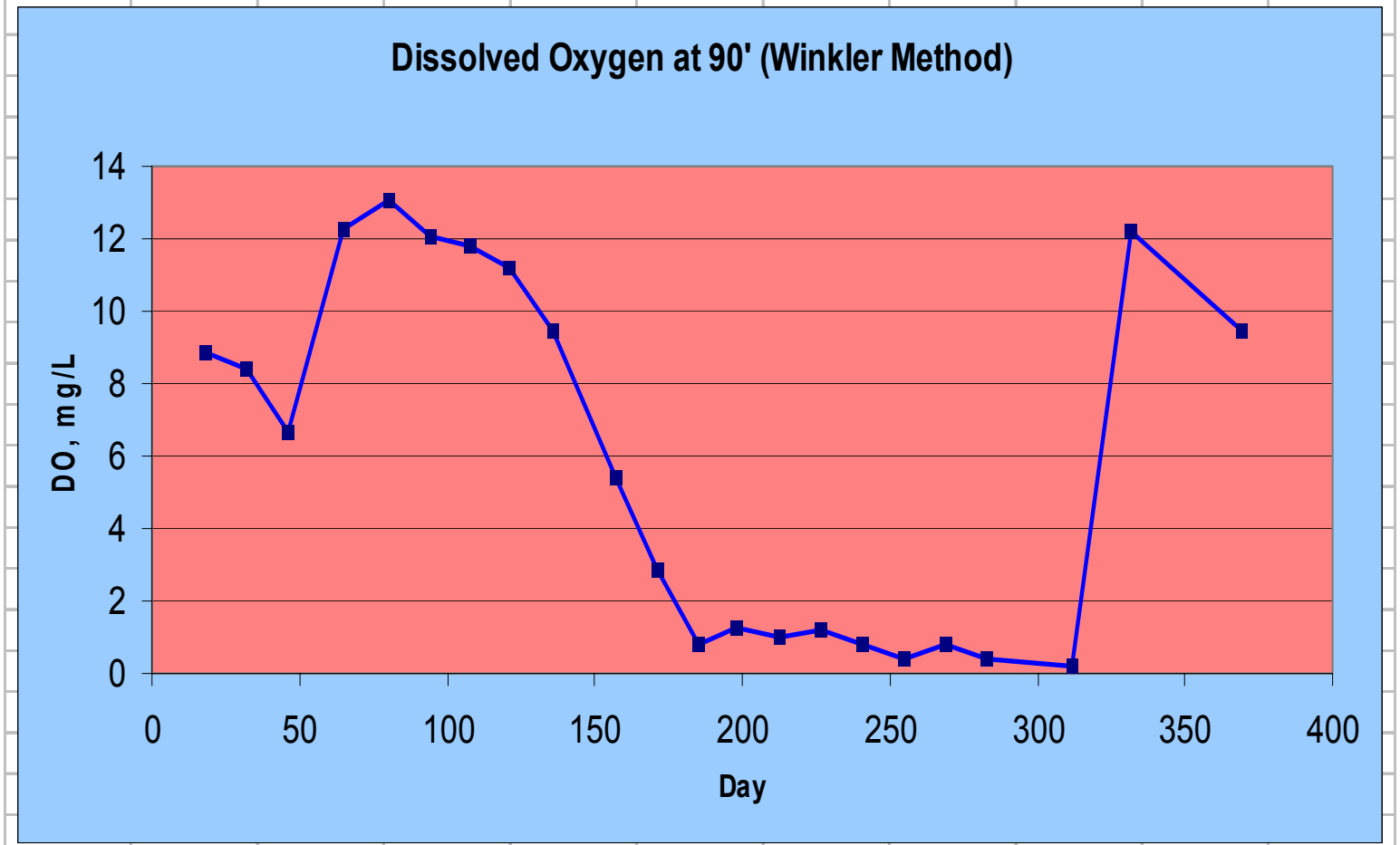


Figure 9. Dissolved Oxygen Concentrations at 90 Feet in Platte Lake in 2000

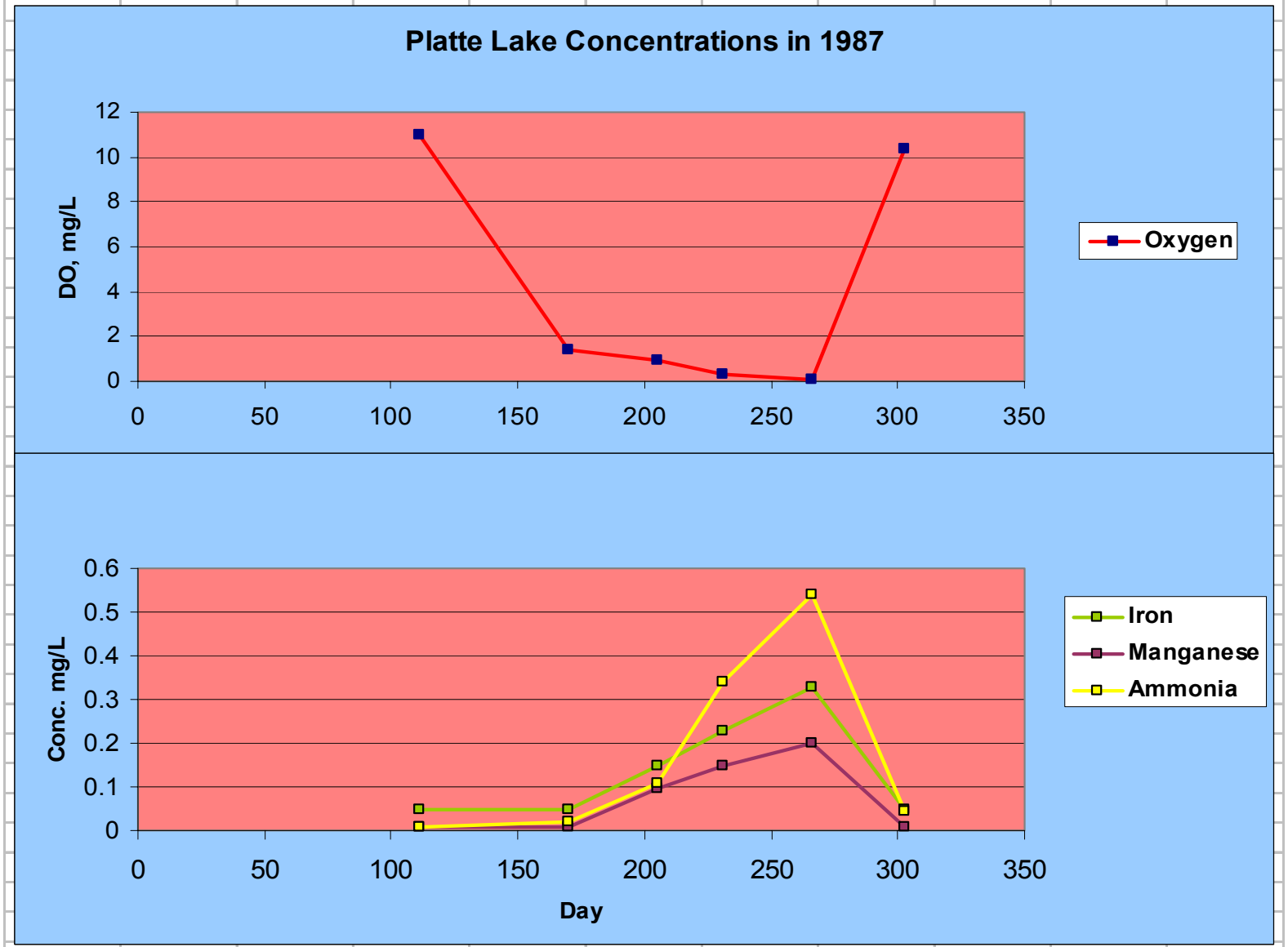


Figure 10. MDNR Data for Bottom Water Concentrations in Platte Lake in 1987

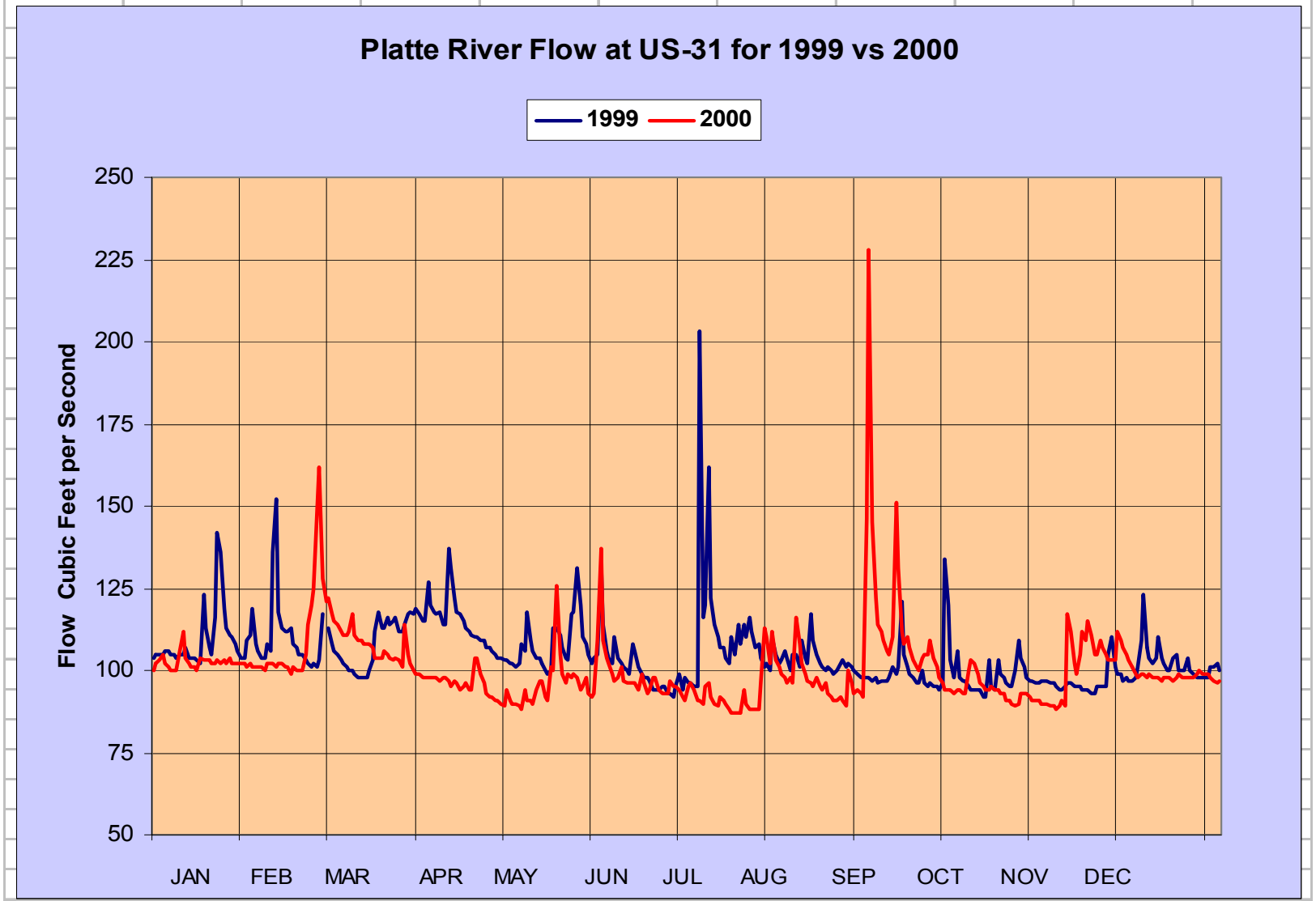


Figure 11. Daily Variation of Platte River Flows for 1999 and 2000 at US-31

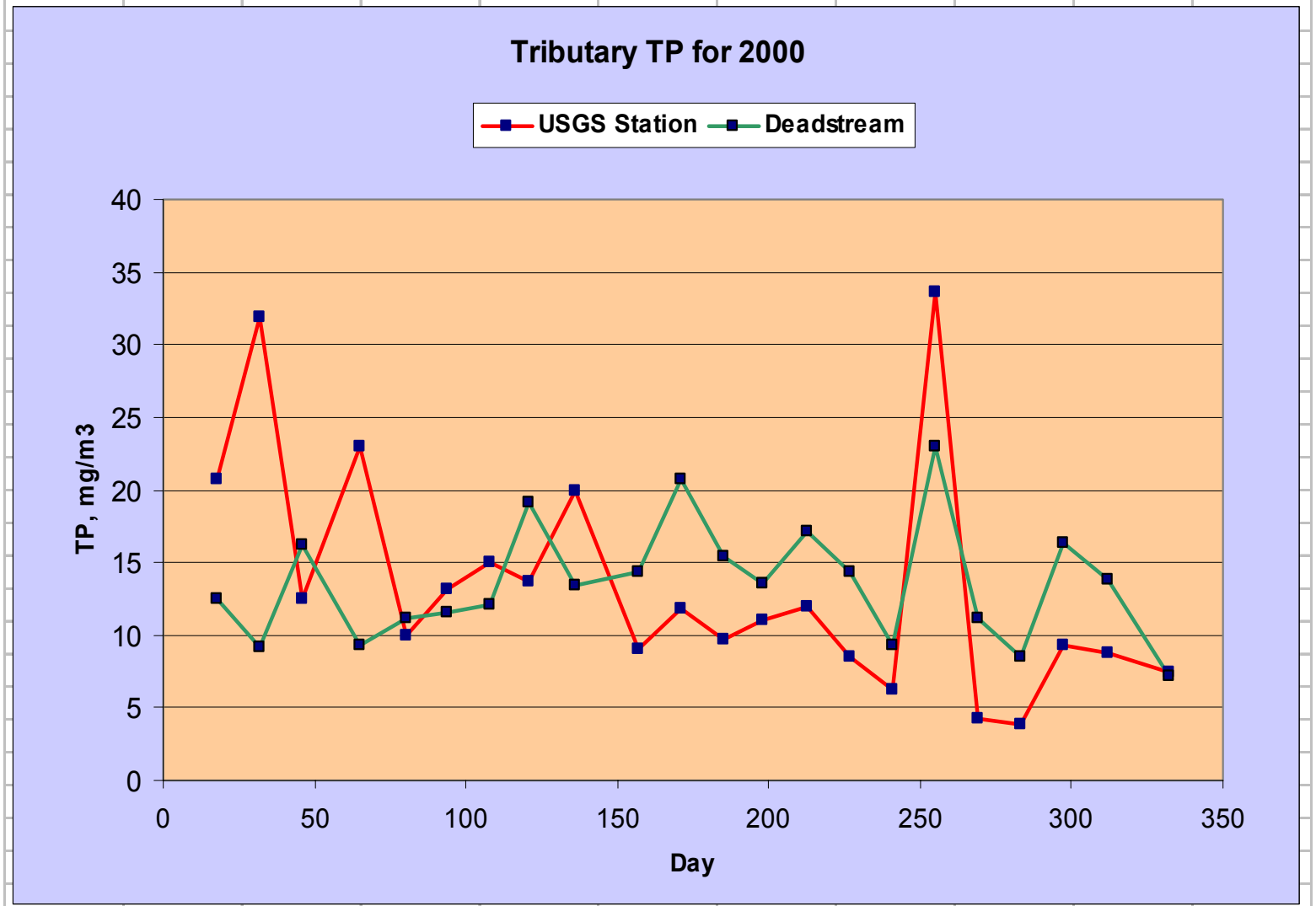
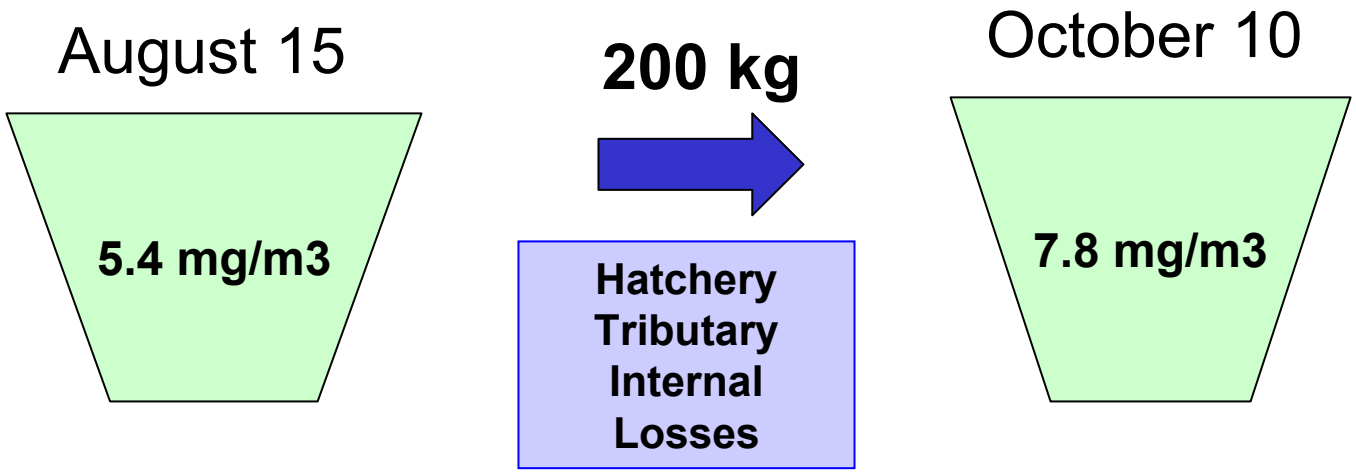


Figure 12. Tributary Total Phosphorus Concentrations for 2000



Hatchery = 35 kg

Tributary = 190 kg

Internal = Days <2 x Area x Release

Internal = 77 kg

Losses = 102 kg

Bio-availability ?
Macrophytes ?
Decaying Salmon ?
Re-suspension ?

	GLEC + New Field Person										
								Macrophyte			field
	Lake	Hatchery	Major	Minor	Rain	Sediment		Rain			field
								Evaporation			field
Locations	8	5	3	3	4	8		Gurley			field
								SOD			lab
Regular	25	104	25	25	25	1		Bio-Assay			lab
Event			48	48				P Release			lab
								Light			lab
Number	200	520	219	219	100	8		DO, pH, Temp, ORP, Secchi			**Hydrolab**
Parameter							Total			Unit Cost	Total Cost
TP	600	1560	657	657	300	24	3798	triplicate		$ 18.00	$ 68,364.00
Chloro	50						50	top&bot composite		$ 45.00	$ 2,250.00
DO	50						50	top&bot only		$ 5.00	$ 250.00
TDS	100						100	4 depths		$ 8.00	$ 800.00
Ca	100						100	4 depths		$ 3.50	$ 350.00
pH&alk	100						100	4 depths		$ 3.50	$ 350.00
Phyto	200						200	8 depths		$ 100.00	$ 20,000.00
Zoop	200						200	8 depths		$ 100.00	$ 20,000.00
Iron+2	50						50	bot 2 depths only		$ 25.00	$ 1,250.00
SS	200	520	219	219	100		1258	field turbidimeter			$ -
NO2+NO3	12						12	3 depths 4 times		$ 18.50	$ 222.00
TKN	12						12	3 depths 4 times		$ 25.00	$ 300.00
% water						8	8	8 locations		$ 15.00	$ 120.00
Sed TP						8	8	8 locations		$ 100.00	$ 800.00
COD						8	8	8 locations		$ 25.00	$ 200.00
TOC						8	8	8 locations		$ 25.00	$ 200.00
Needed Equipment									Grand Total		$ 115,456.00
rain gague											
evaporation											
LICOR											
Gurley											

	CMU + New Field Person										
								Macrophyte			field
	Lake	Hatchery	Major	Minor	Rain	Sediment		Rain			field
								Evaporation			field
Locations	8	5	3	3	4	8		Gurley			field
								SOD			lab
Regular	25	104	25	25	25	1		Bio-Assay			lab
Event			48	48				P Release			lab
								Light			lab
Number	200	520	219	219	100	8		DO, pH, Temp, ORP, Secchi			**Hydrolab**
Parameter							Total			Unit Cost	Total Cost
TP	600	1560	657	657	300	24	3798	triplicate		$ 4.50	$17,091.00
Chloro	50						50	top&bot composite		$ 6.00	$ 300.00
DO	50						50	top&bot only		$ 5.00	$ 250.00
TDS	100						100	4 depths		$ 8.00	$ 800.00
Ca	100						100	4 depths		$ 3.50	$ 350.00
pH&alk	100						100	4 depths		$ 3.50	$ 350.00
Phyto	200						200	8 depths		$ 18.75	$ 3,750.00
Zoop	200						200	8 depths		$ 18.75	$ 3,750.00
Iron+2	50						50	bottom 2 depths only		$ 8.00	$ 400.00
SS	200	520	219	219	100		1258	field turbidimeter			$ -
NO2+NO3	12						12	3 depths 4 times		$ 9.50	$ 114.00
TKN	12						12	3 depths 4 times		$ 15.00	$ 180.00
% water						8	8	8 locations		$ 15.00	$ 120.00
Sed TP						8	8	8 locations		$ 50.00	$ 400.00
COD						8	8	8 locations		$ 25.00	$ 200.00
TOC						8	8	8 locations		$ 25.00	$ 200.00
Needed Equipment									Grand Total		$28,255.00
rain gague		boat									
evaporation		winch									
LICOR		sediment sampler									
Gurley		**Hydrolab**									
		lab sapce									

	CT&E + CMU + New Field Person										
								Macrophyte			field
	Lake	Hatchery	Major	Minor	Rain	Sediment		Rain			field
								Evaporation			field
Locations	8	5	3	3	4	8		Gurley			field
								SOD			lab
Regular	25	104	25	25	25	1		Bio-Assay			lab
Event			48	48				P Release			lab
								Light			lab
Number	200	520	219	219	100	8		DO, pH, Temp, ORP, Secchi			**Hydrolab**
Parameter							Total			Unit Cost	Total Cost
TP	600	1560	657	657	300	24	3798	triplicate		$ 14.00	$53,172.00
Chloro	50						50	top&bot composite		$ 6.00	$ 300.00
DO	50						50	top&bot only		$ 5.00	$ 250.00
TDS	100						100	4 depths		$ 8.00	$ 800.00
Ca	100						100	4 depths		$ 3.50	$ 350.00
pH&alk	100						100	4 depths		$ 3.50	$ 350.00
Phyto	200						200	8 depths		$ 18.75	$ 3,750.00
Zoop	200						200	8 depths		$ 18.75	$ 3,750.00
Iron+2	50						50	bottom 2 depths only		$ 8.00	$ 400.00
SS	200	520	219	219	100		1258	field turbidimeter			$ -
NO2+NO3	12						12	3 depths 4 times		$ 9.50	$ 114.00
TKN	12						12	3 depths 4 times		$ 15.00	$ 180.00
% water						8	8	8 locations		$ 15.00	$ 120.00
Sed TP						8	8	8 locations		$ 50.00	$ 400.00
COD						8	8	8 locations		$ 25.00	$ 200.00
TOC						8	8	8 locations		$ 25.00	$ 200.00
Needed Equipment									Grand Total		$64,336.00
rain gague		boat									
evaporation		winch									
LICOR		sediment sampler									
Gurley		**Hydrolab**									
		lab sapce									

	GLEC	CMU
Laboratory Aanlysis	115,500	28,000
Data Collection	47,000	45,000
Equipment Cost		
Gurley	1000	1000
Rain	1000	1000
Evaporation		
LICOR	3000	3000
Turbidimeter	3000	3000
Hydrolab	0	8000
Boat	0	10,000
Winch	0	2,000
Sediment	0	1,000
Sampling Equipment	0	4,000
Lab Space	0	0
Special Studies		
Macrophyte	30,000	10,000
Light	5,000	5,000
P Release	5,000	5,000
SOD	5,000	5,000
Bio-Assay	5,000	5,000
Total Lab and Sampling Costs	$ 220,500.00	$ 136,000.00