

Overview for 2011

Consent Agreement Item	Actual Value for 2011	Limit
Annual Loading (Lbs P)	47.7	175
Max 3 Month Loading (Lbs P)	25.21 (Dec)	55
Hatchery Flow (mgd)	6.92	20
Adult Coho (Individuals)	15,018	20,000
Adult Chinook (Individuals)	377	1,000
Lake Median TP (mg/m ³)	7.52	8.0
% Compliance with 8 mg/m ³	65	95

Figure 1. Data summary for the 2010 Annual Report.

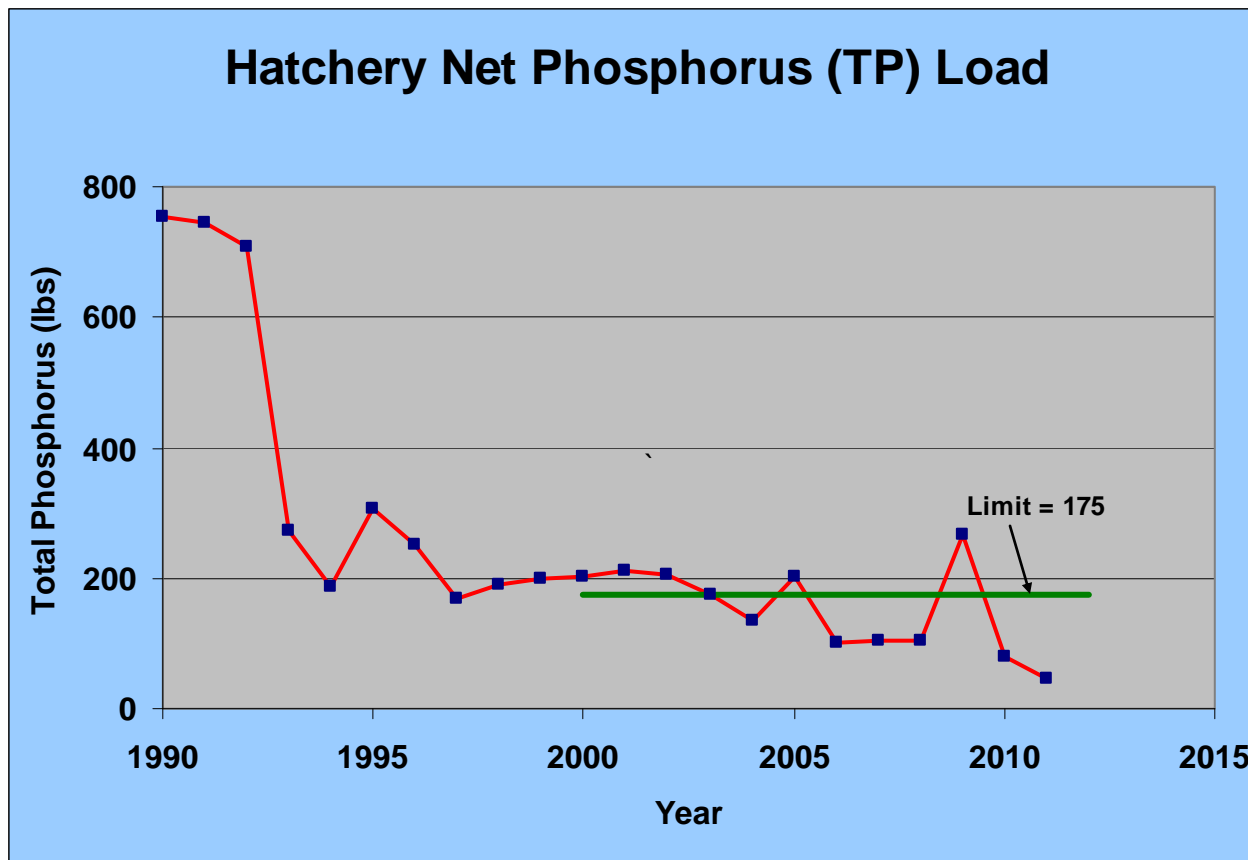


Figure 2. Annual Hatchery phosphorus loadings to the Platte River from 1990 to 2011.
Net Load for 2011 = 47.7 Lbs.

Upper Discharge - Outfall 0002 - Phosphorus for Year 2011

Average Dip: 15.37, Average Sigma 72: 12.78

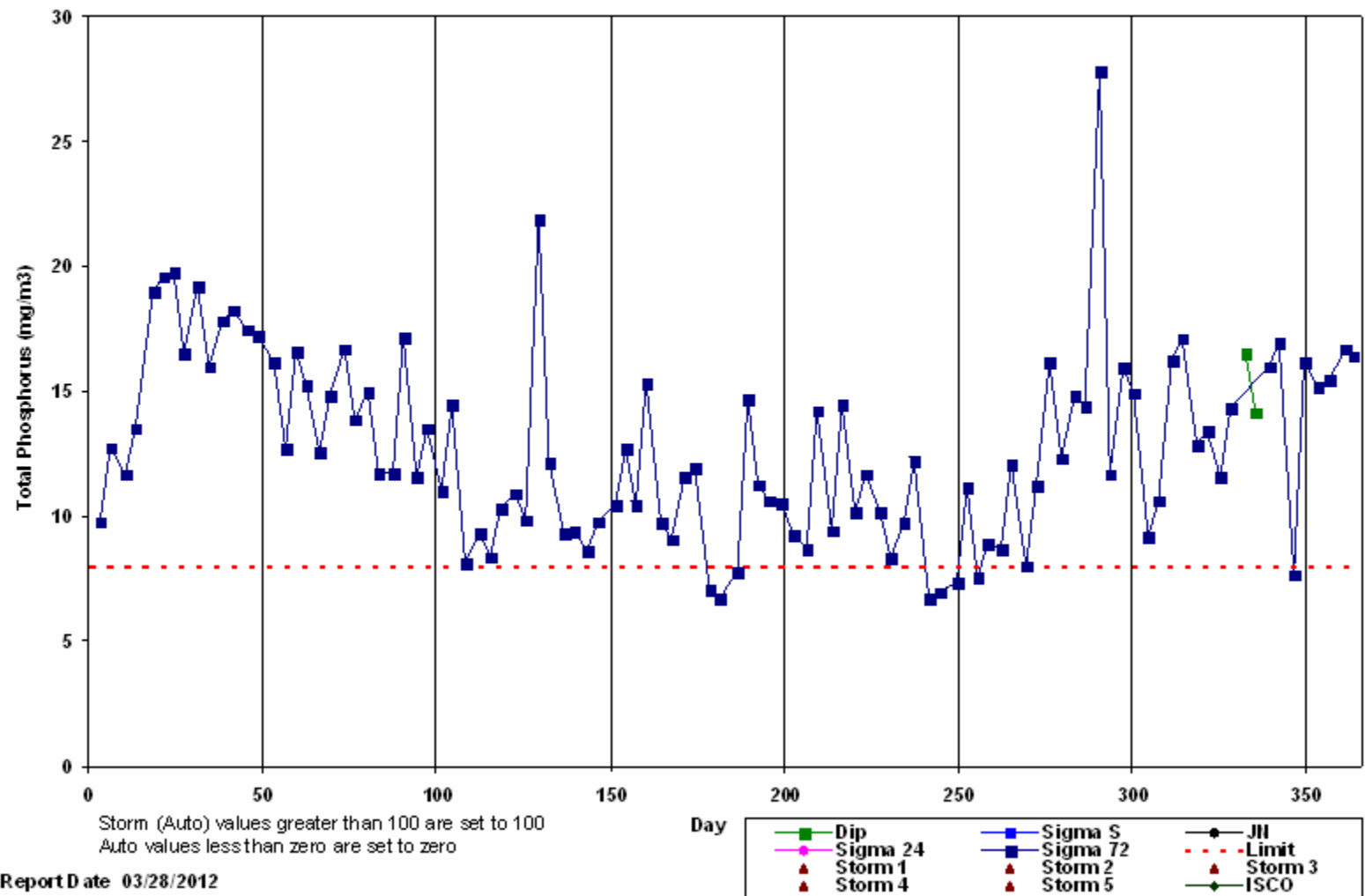
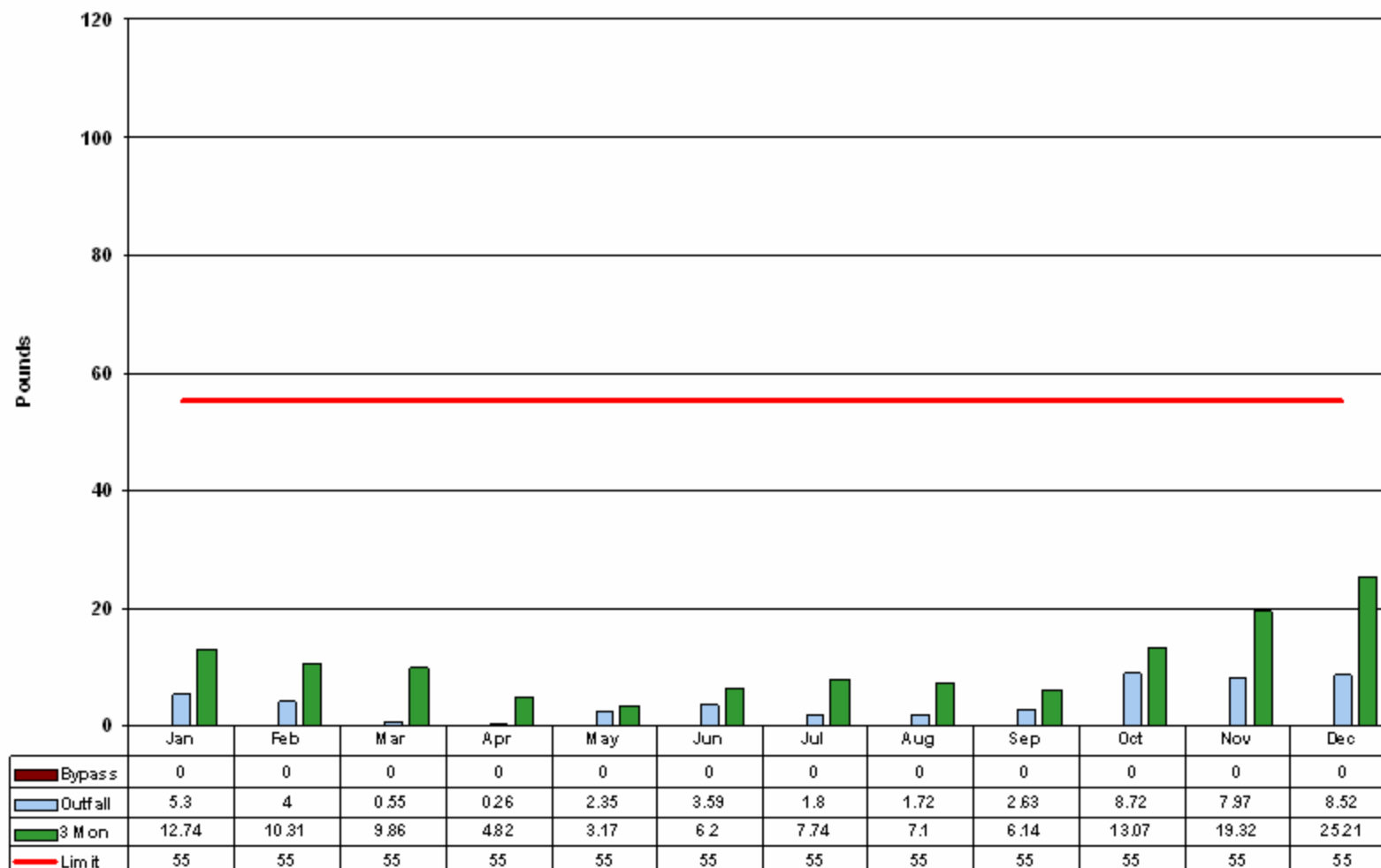


Figure 3. Measured phosphorus concentrations at the Upper Discharge in 2011.

Hatchery Average Monthly Net Load for 2011

Total Net Load is 47.41 Pounds for Method Sigma Automatic 72hr (Sigma72)



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Figure 4. Hatchery monthly (blue bars) and 3-month cumulative (green bars) phosphorus loadings to the Platte River. The 3-month cumulative phosphorus discharge limit is displayed on the red line.

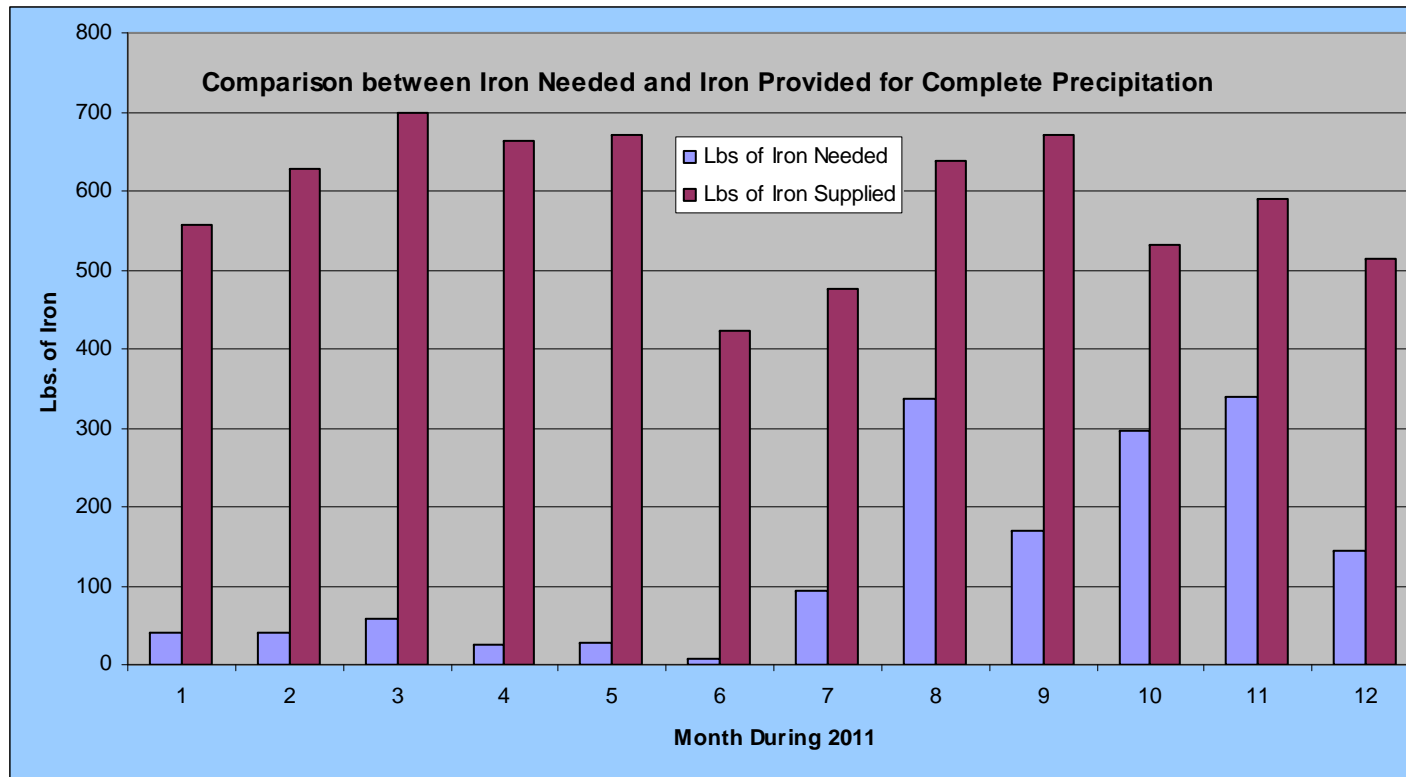


Figure 5. Monthly application rates of ferric chloride to reduce phosphorus in the Hatchery loadings to the Platte River.

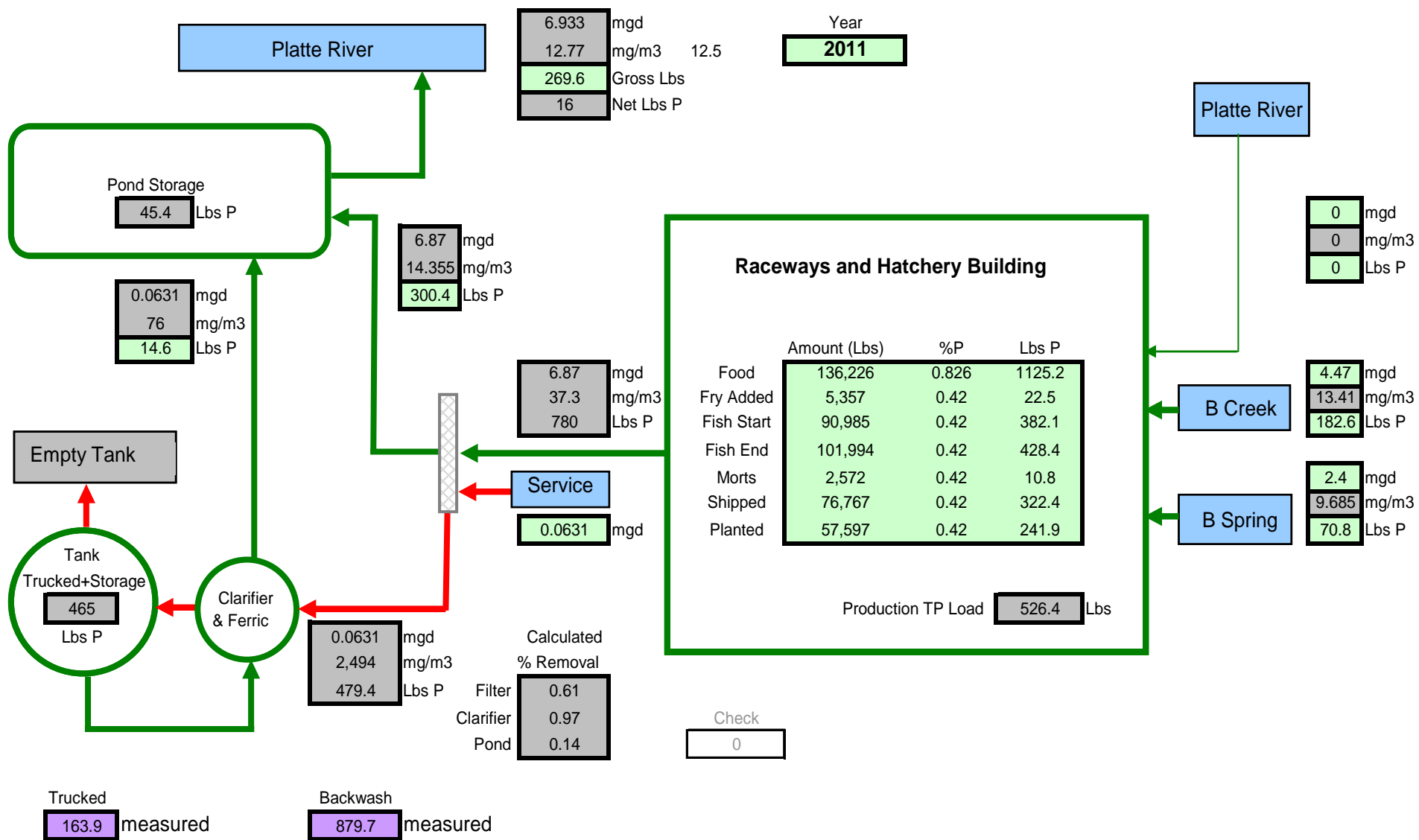


Figure 6. 2011 Hatchery phosphorus mass balance model.

Big Platte Lake - Median Phosphorus for Year 2011

Average Median Phosphorus for Year is 7.52 (Above Limit 129 of 365 Days, 35%)

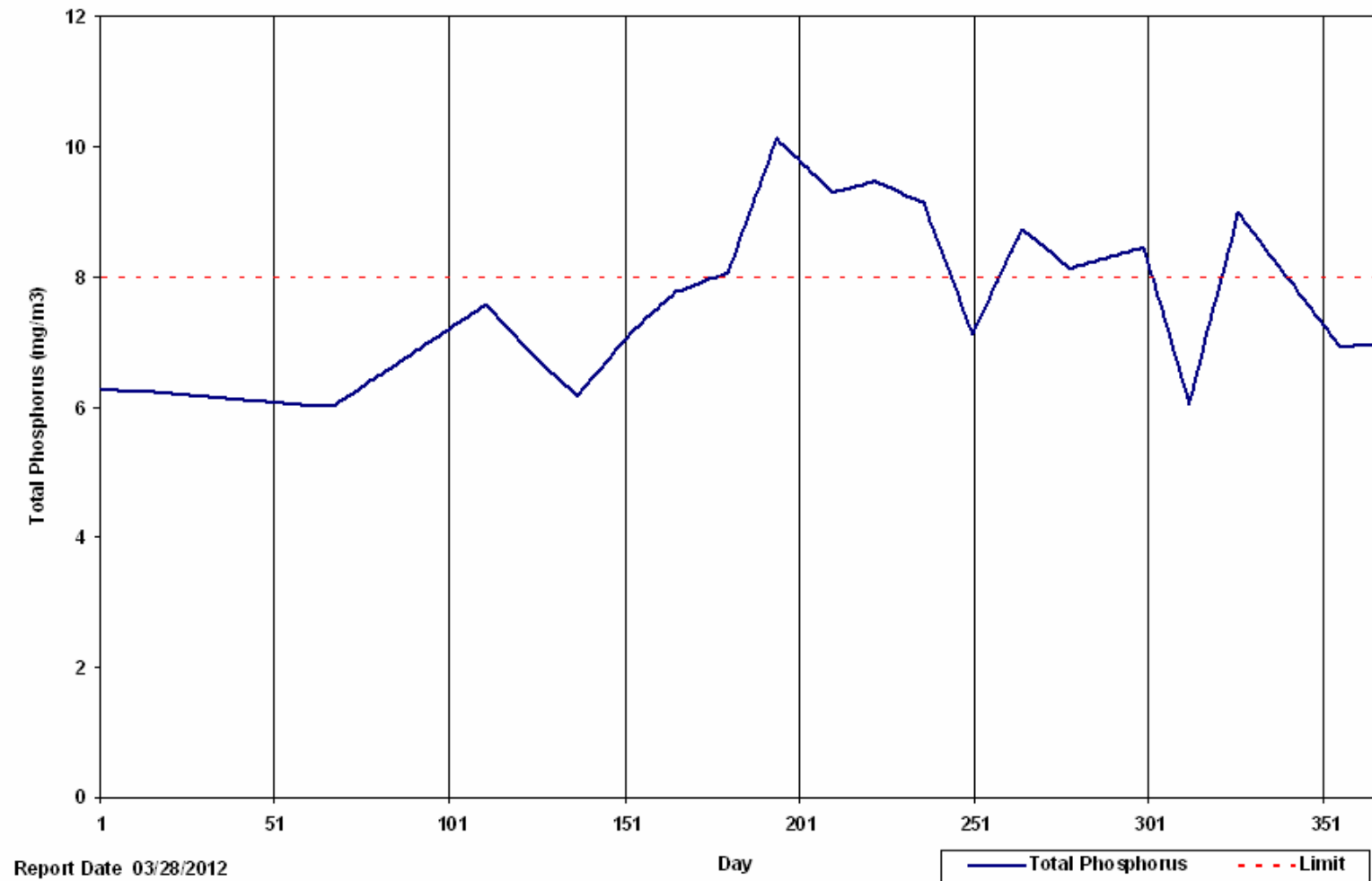


Figure 7. Volume-weighted total phosphorus concentrations in Big Platte Lake during 2011.

Big Platte Lake - Chlorophyll(a) (0-30) for Year 2011

Annual Average Chlorophyll (a) = 2.49 mg/m³

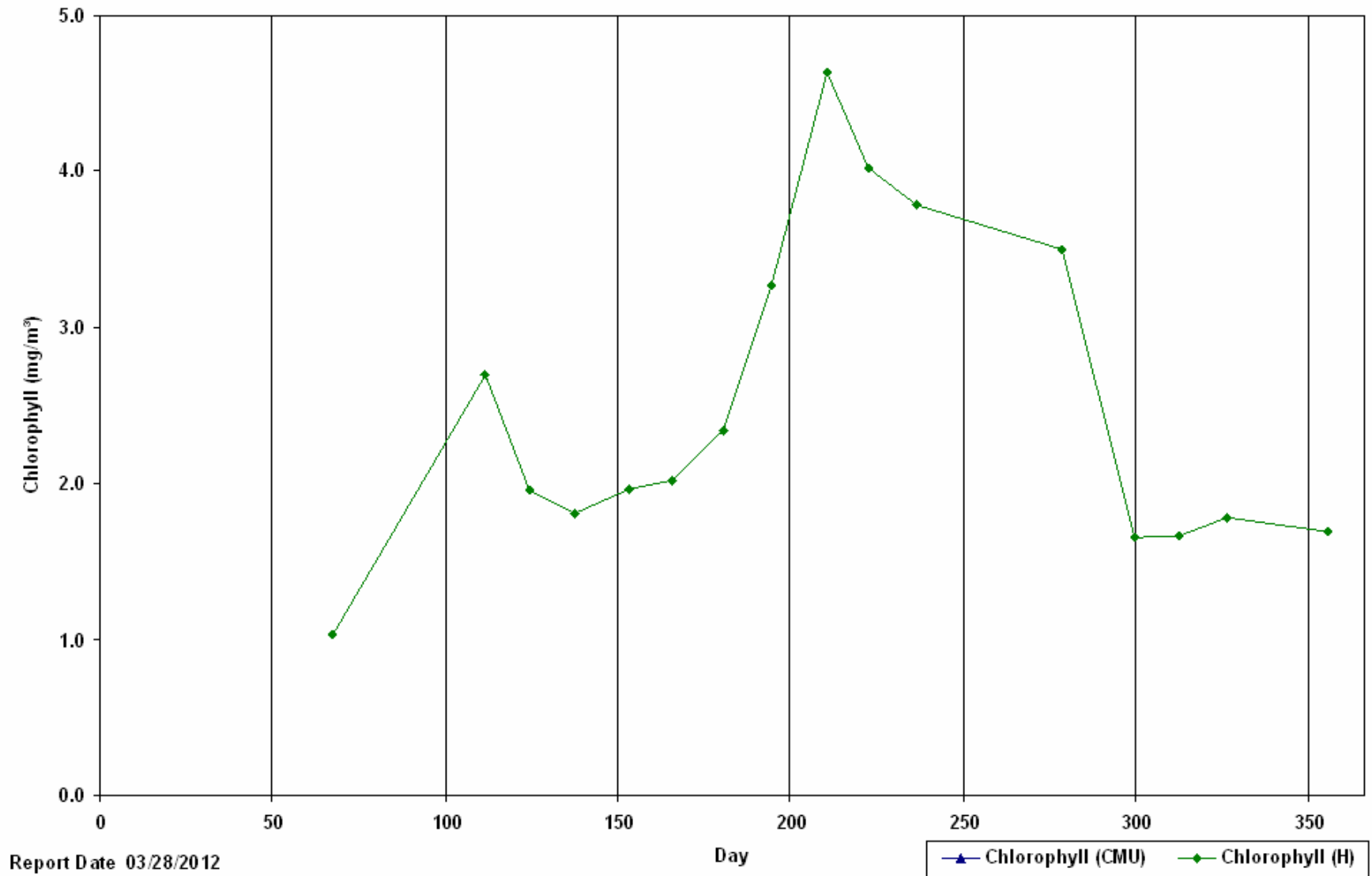


Figure 8. Big Platte Lake Chlorophyll (mg/m³) in 2011.

Big Platte Lake Secchi Depth for 2011

Average Secchi Value: 14.241 (Minimum: 8, Maximum: 28, Hatchery Avg: 14.403, PLIA Avg: 14.115)

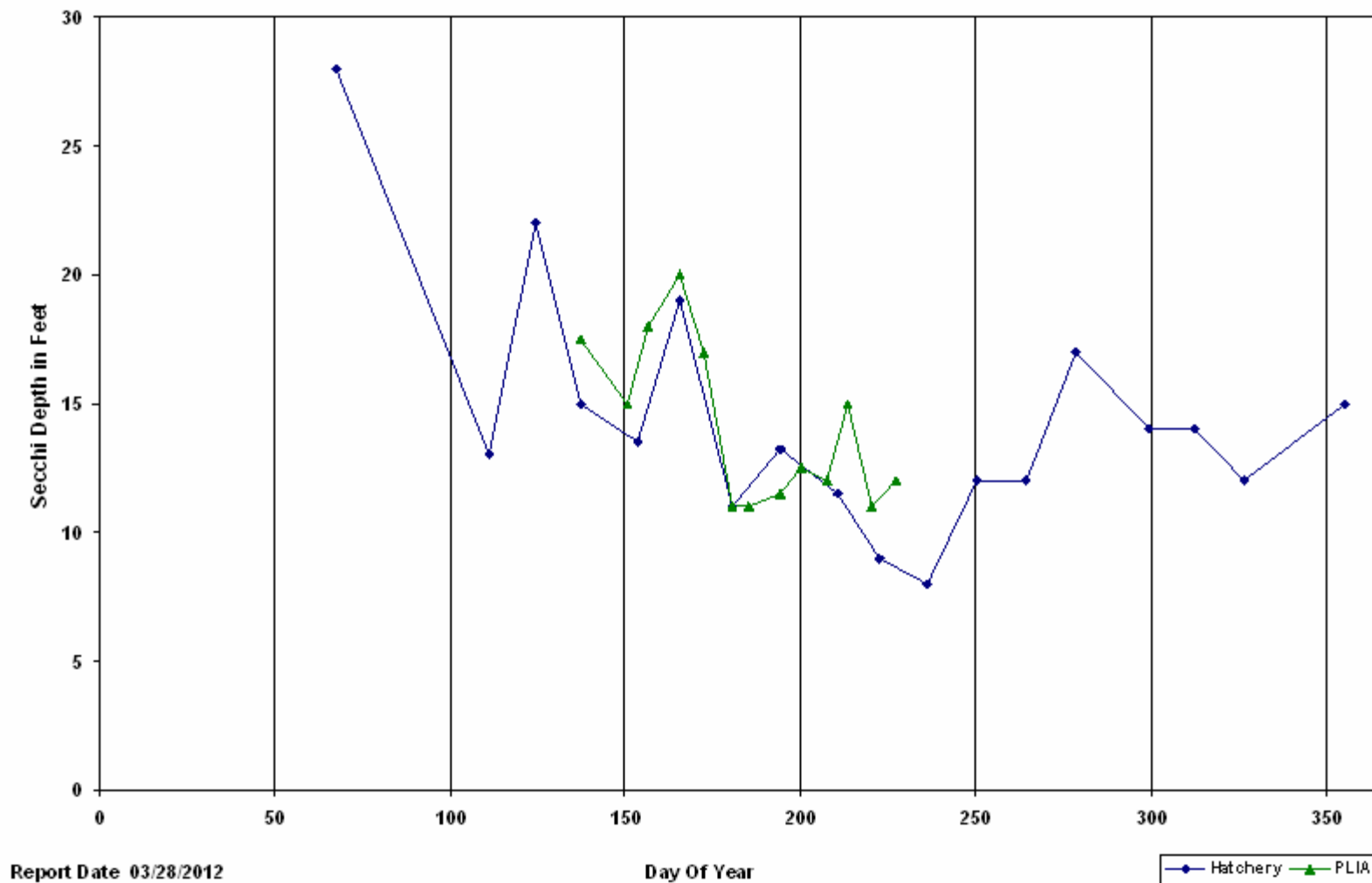


Figure 9. Big Platte Lake Secchi depth measurements for 2011.

Big Platte Lake Dissolved Oxygen (2011 at All Depths)

Anoxic at 45 Feet: 8.5 Days, 60 Feet: 67.1 Days, 75 Feet: 80.3 Days, 90 Feet: 86.4 Days

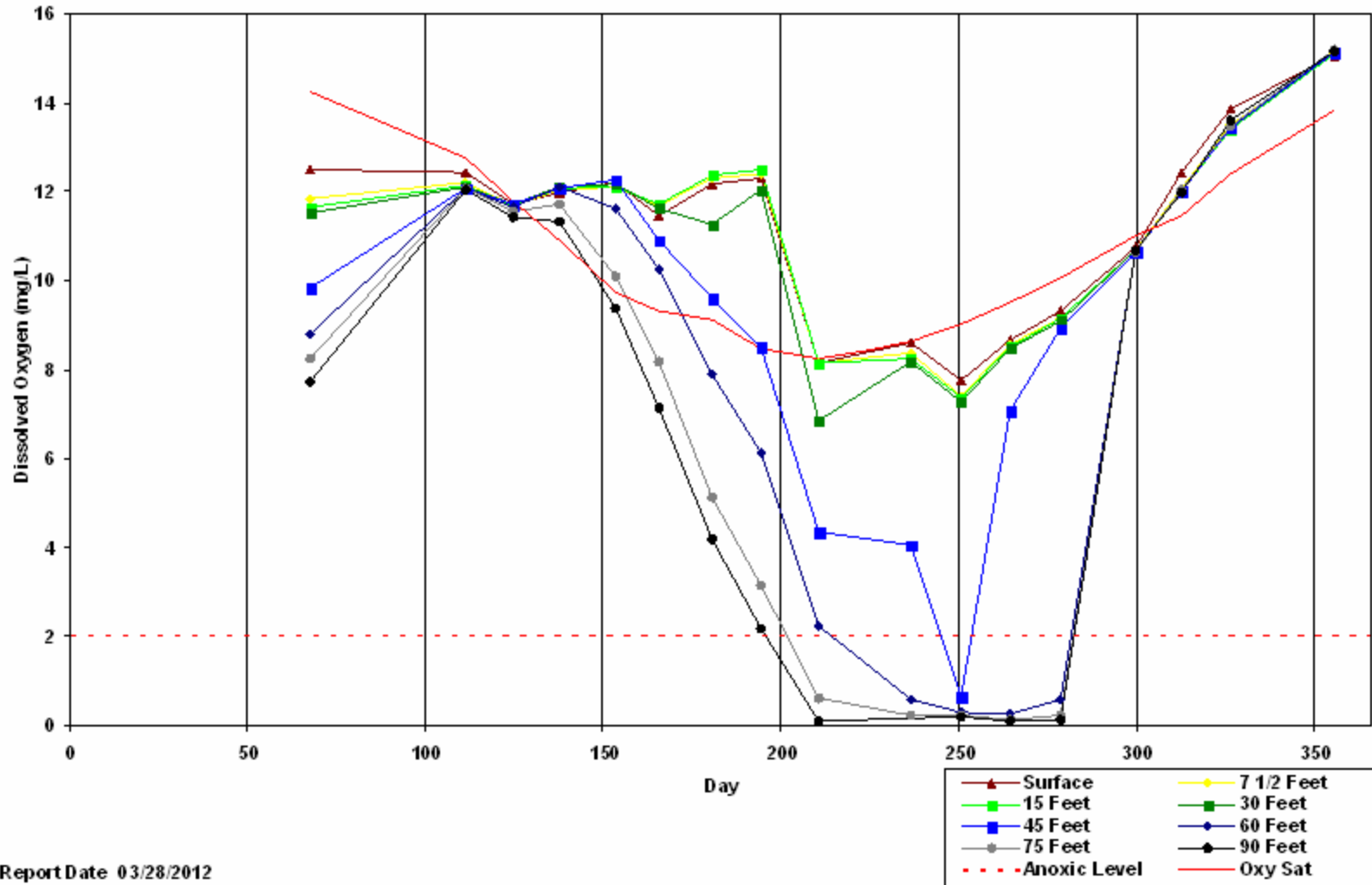


Figure 10. Dissolved oxygen measurements by depth in Big Platte Lake during 2011.

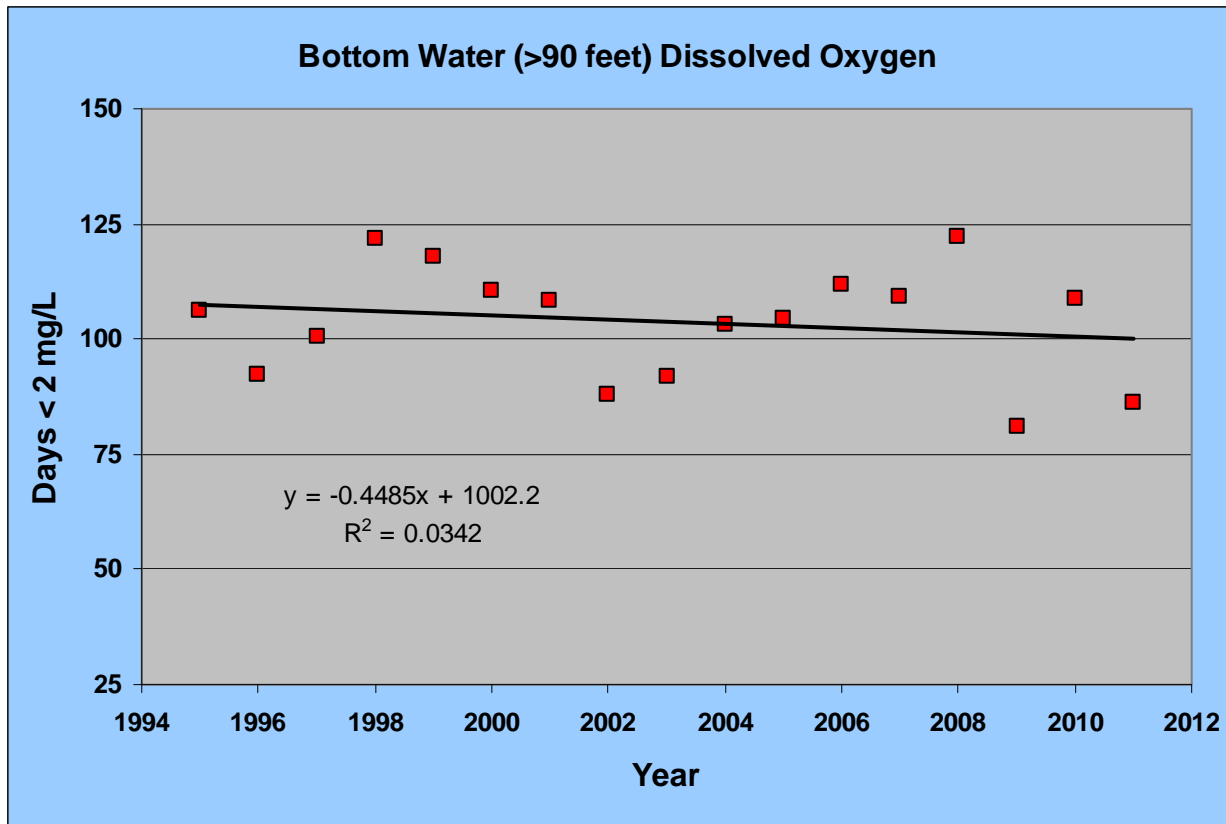
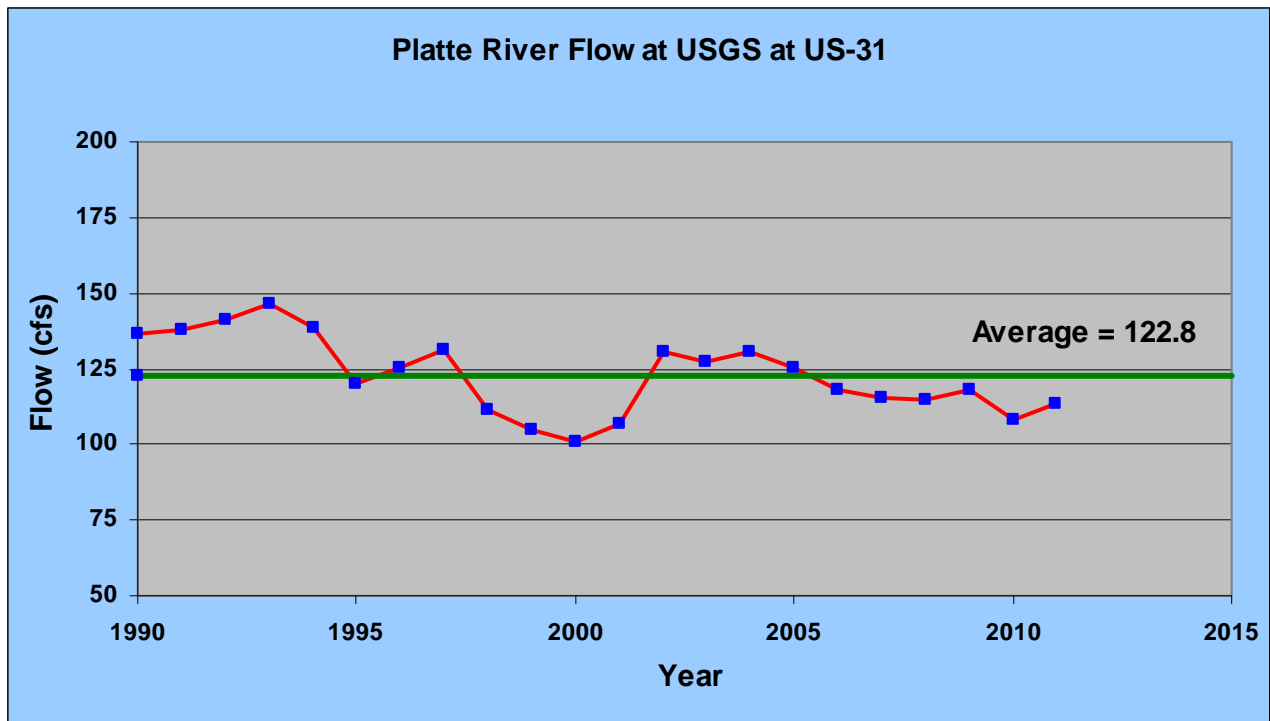


Figure 11. Long-term trend for the Number of Days when Dissolved Oxygen Concentrations Are less than 2 mg/L at depths greater then 90 feet in Big Platte Lake.



**Figure 12. Mean annual discharge of the Platte River at the USGS Gauging Station 04126740 at Honor, MI.
Mean Average Flow for 2011 = 113.6 cfs.**

2011 Flow of Platte River at US - 31 (cfs)

Method: 24 hour average, US31 Average: 113.6, Sampled Average: 113.5

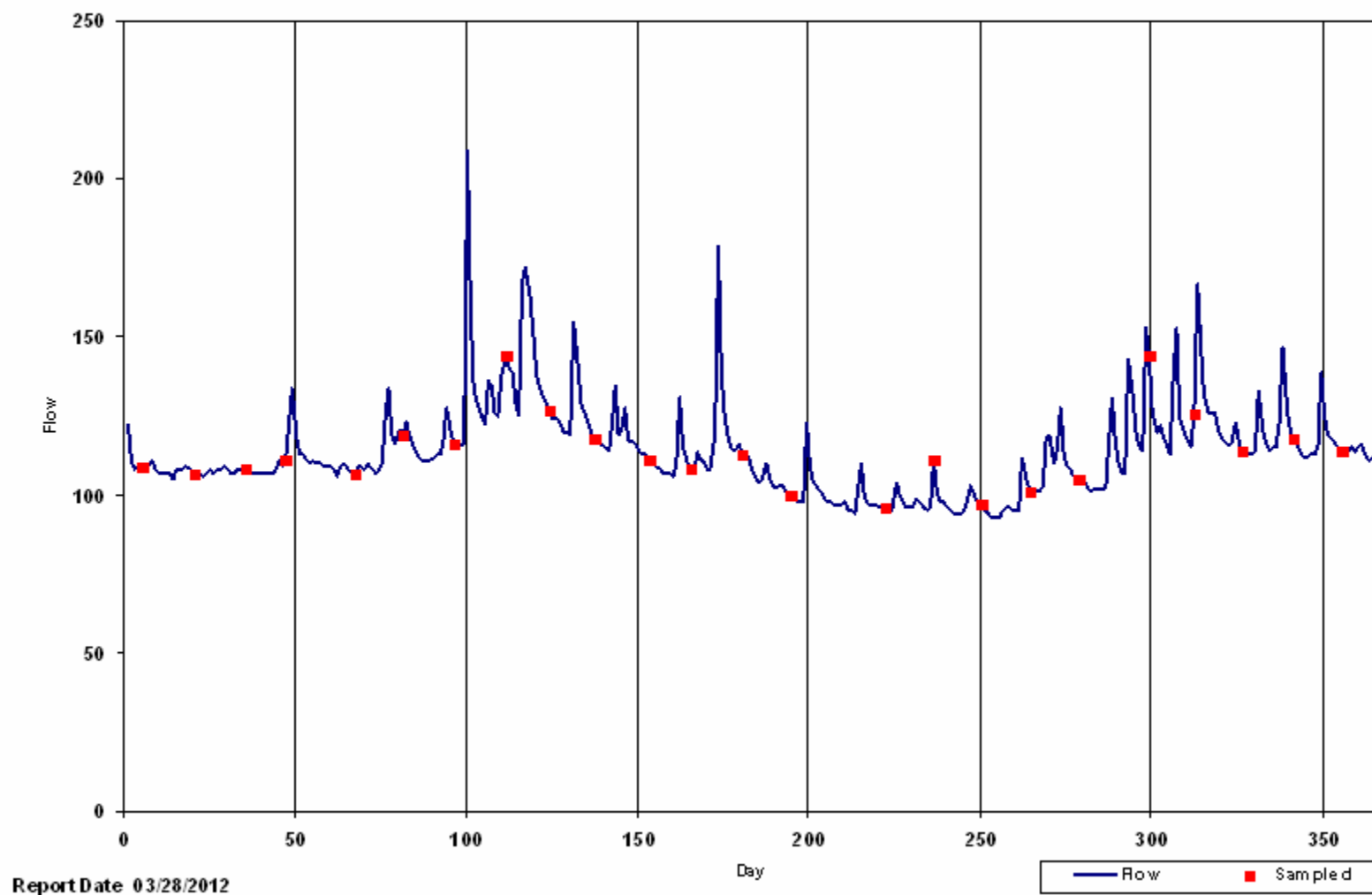
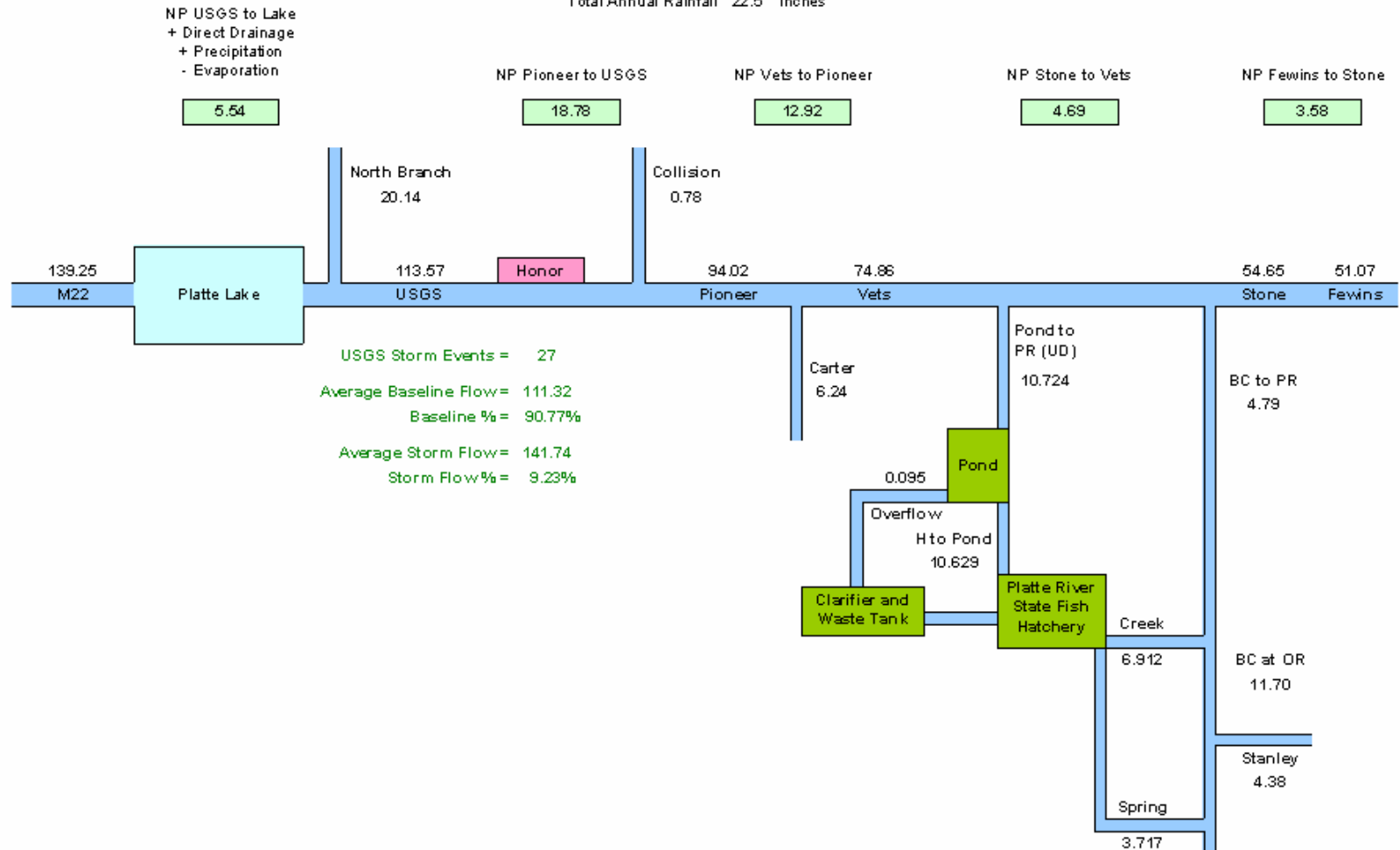


Figure 13. Daily average flows of Platte River in 2011 at the USGS Station 04126740 at Honor, MI and the water quality sampling dates at this site.

Annual Average Watershed Flow Balance for 2011

all flows cfs

Total Annual Rainfall 22.5 Inches

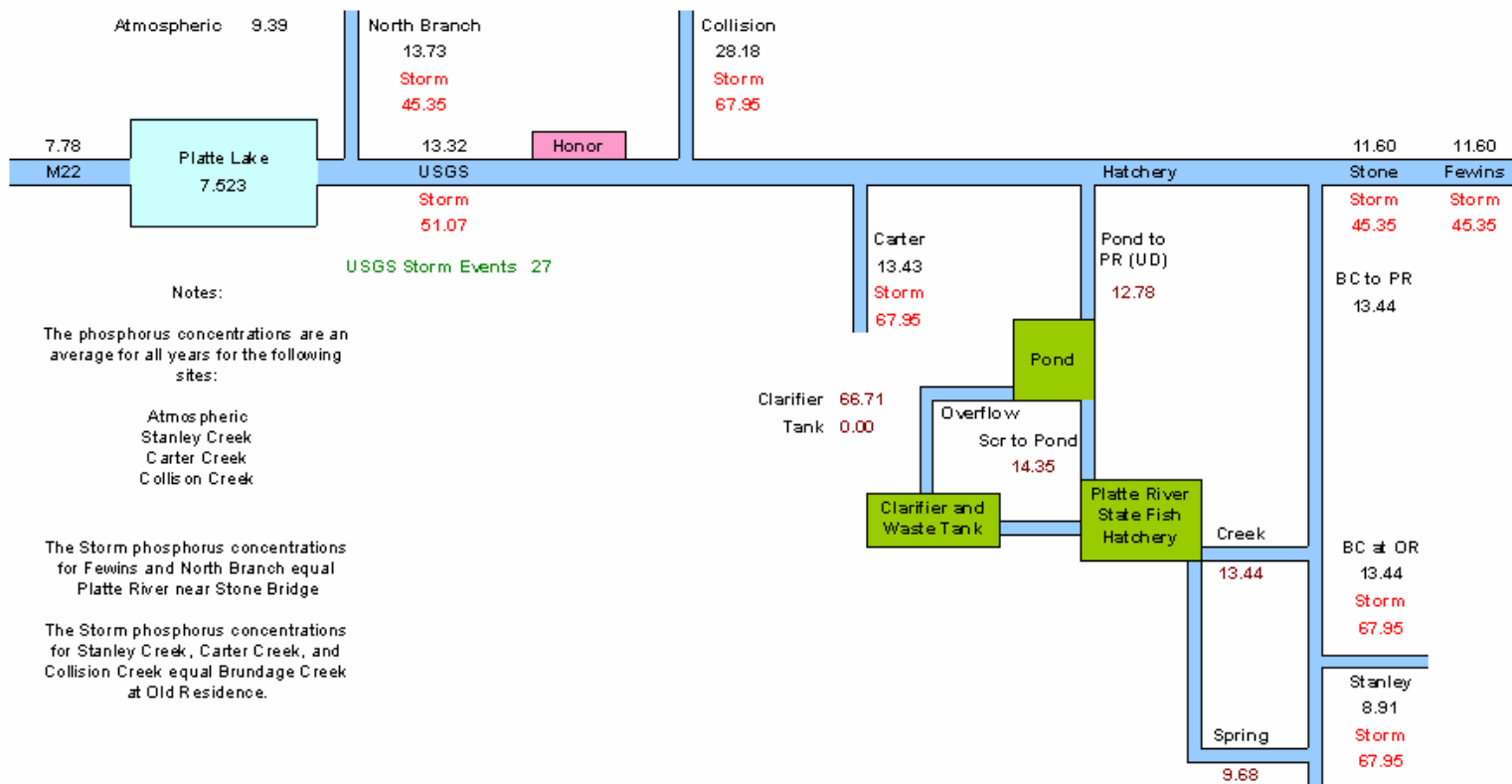


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Platte River Watershed

Figure 14. Watershed Flow Balance for 2011.

Annual Average Watershed TP Concentrations for 2011



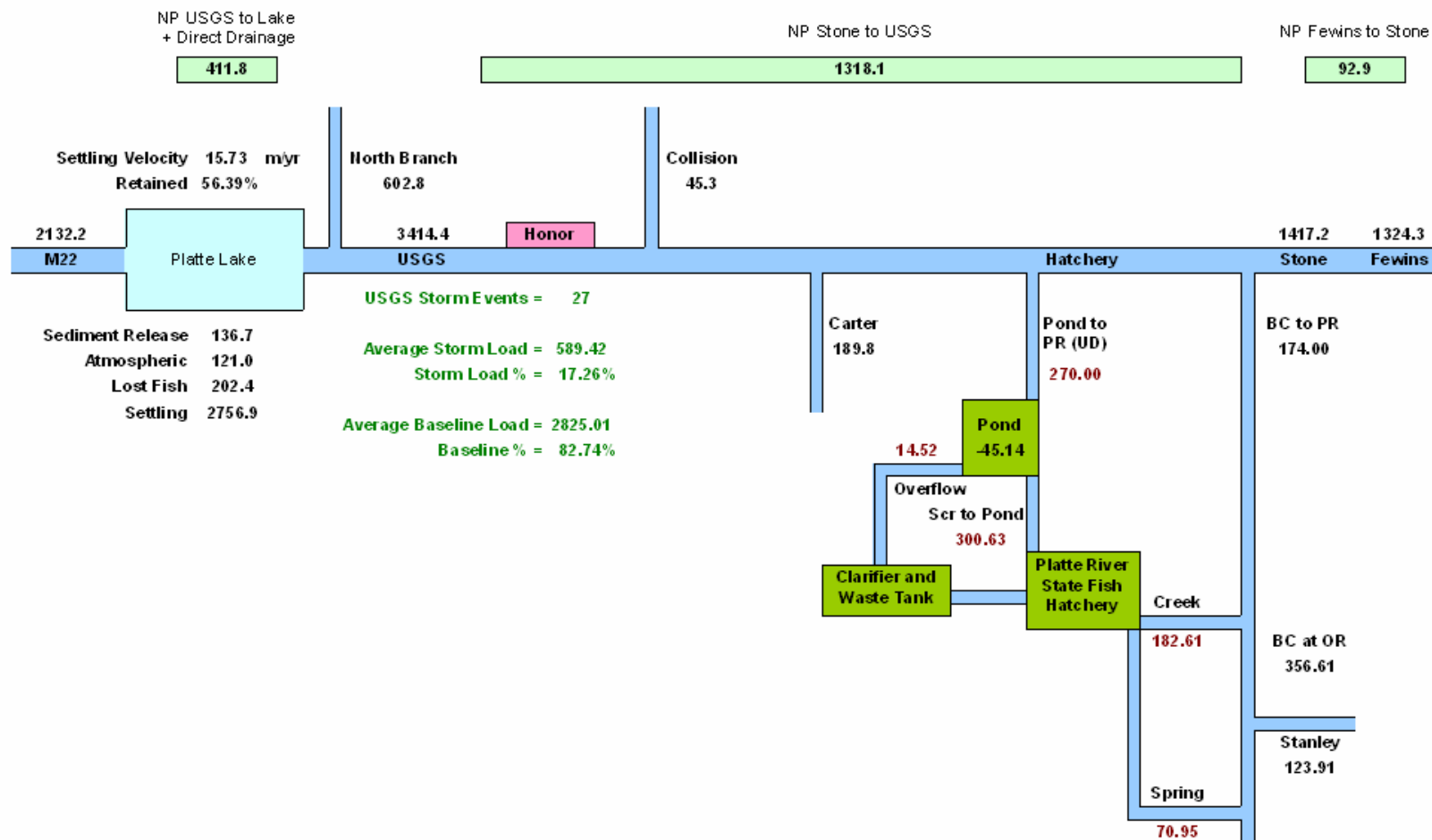
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Figure 15. Annual Average Total Phosphorus concentrations for 2011

Annual Average Watershed Load Balance for 2011

all loads annual pounds



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Platte River Watershed

Figure 16. Watershed Phosphorus Load Balance for 2011

