Figure 1 – Map of Royal River with WWTP Diffuser and Oyster Sentinel Stations 1 – 5

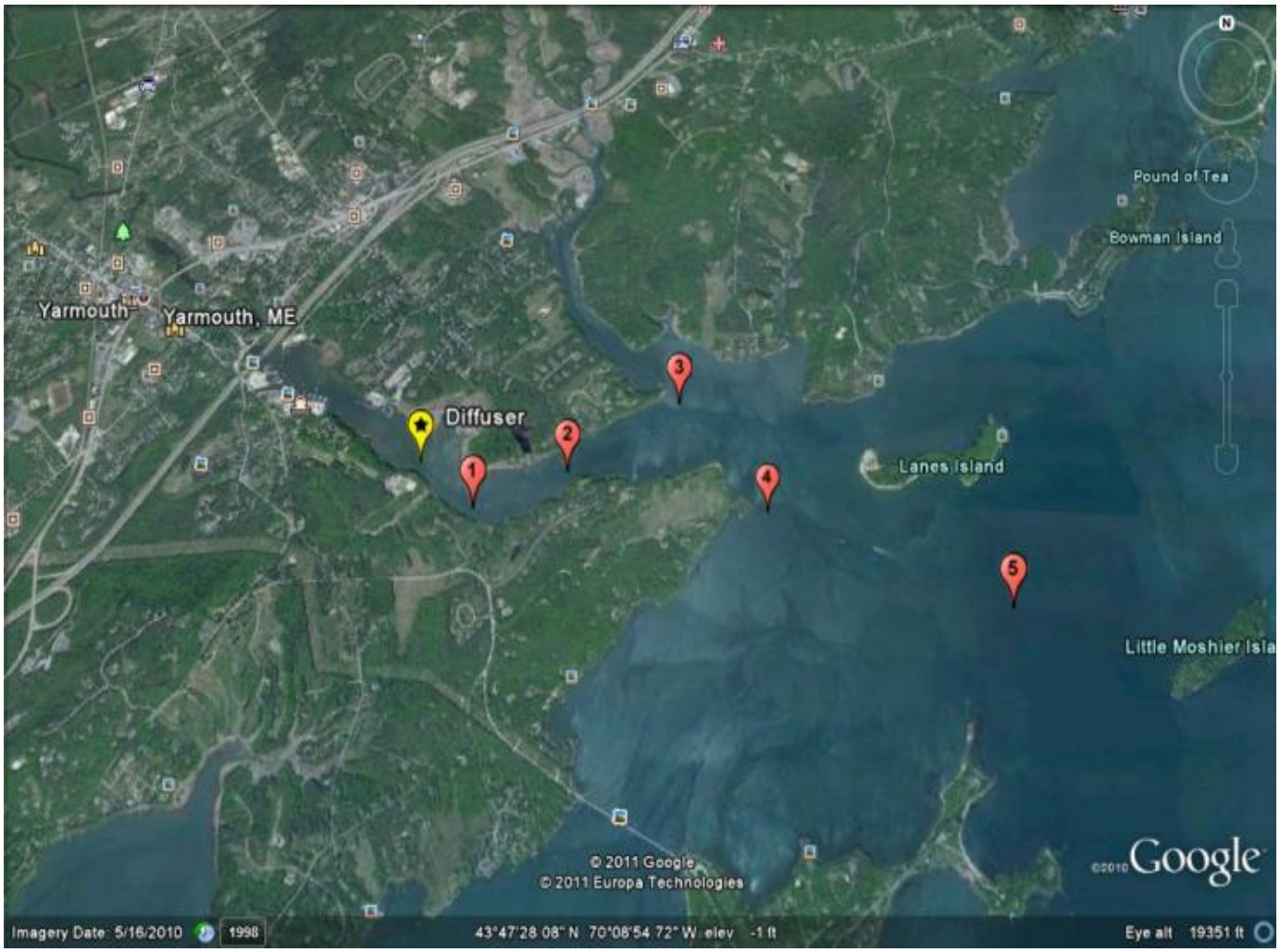


Figure 2 - Drogue Study Results

Figure 3 – Station 1 Submersible WET Labs Data

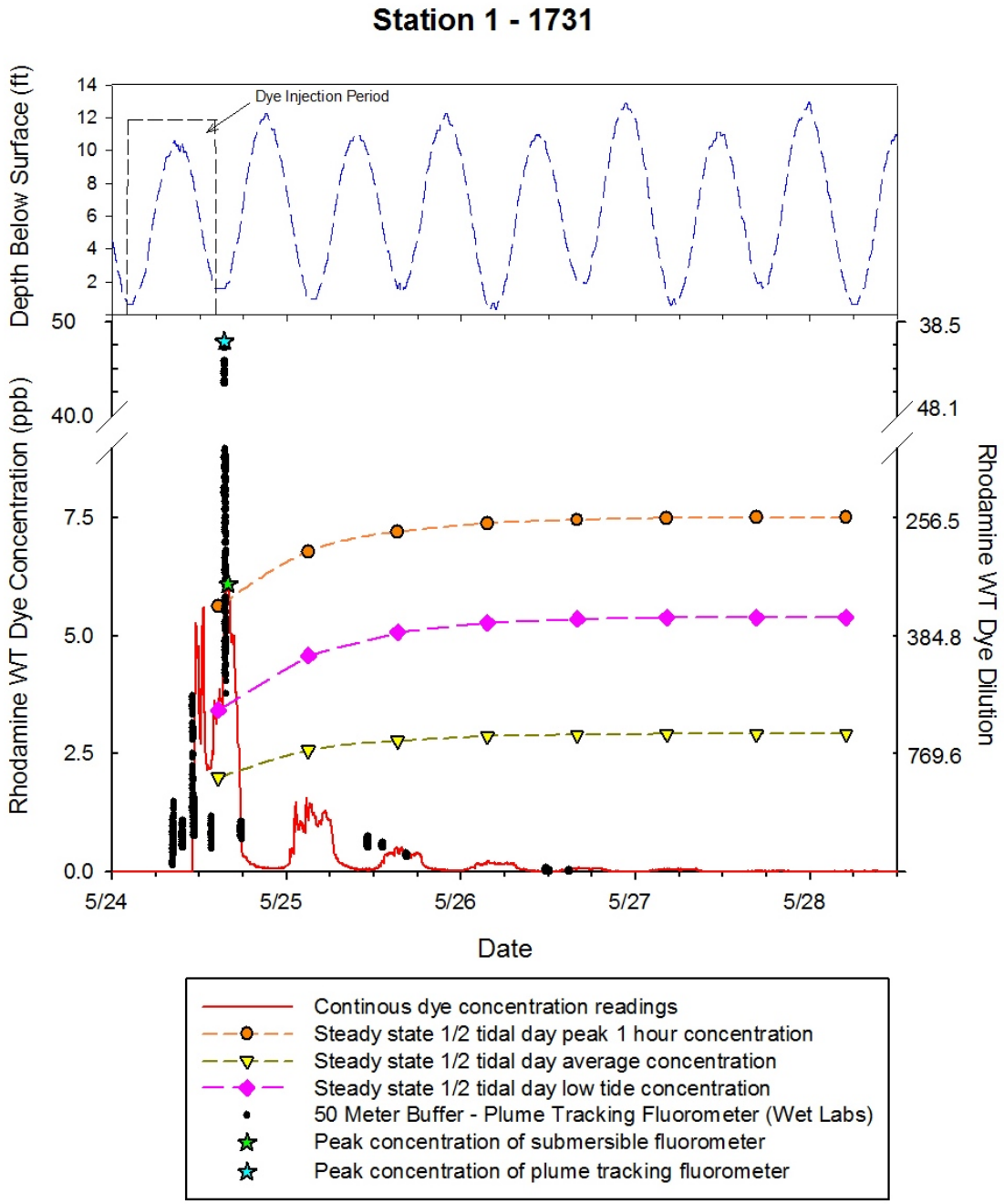


Figure 4 – Station 2 Submersible WET Labs Data

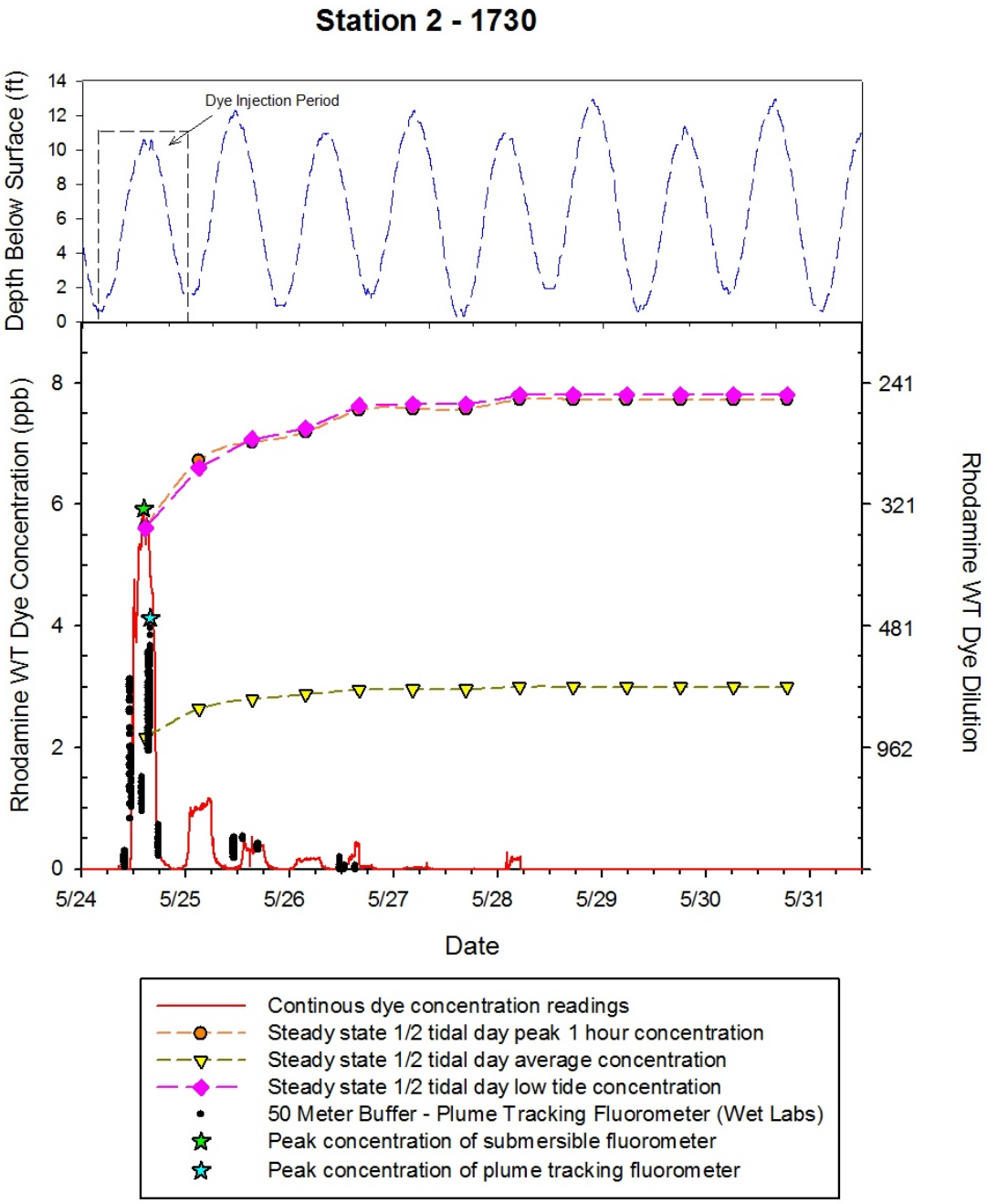


Figure 5 – Station 3 Submersible WET Labs Data

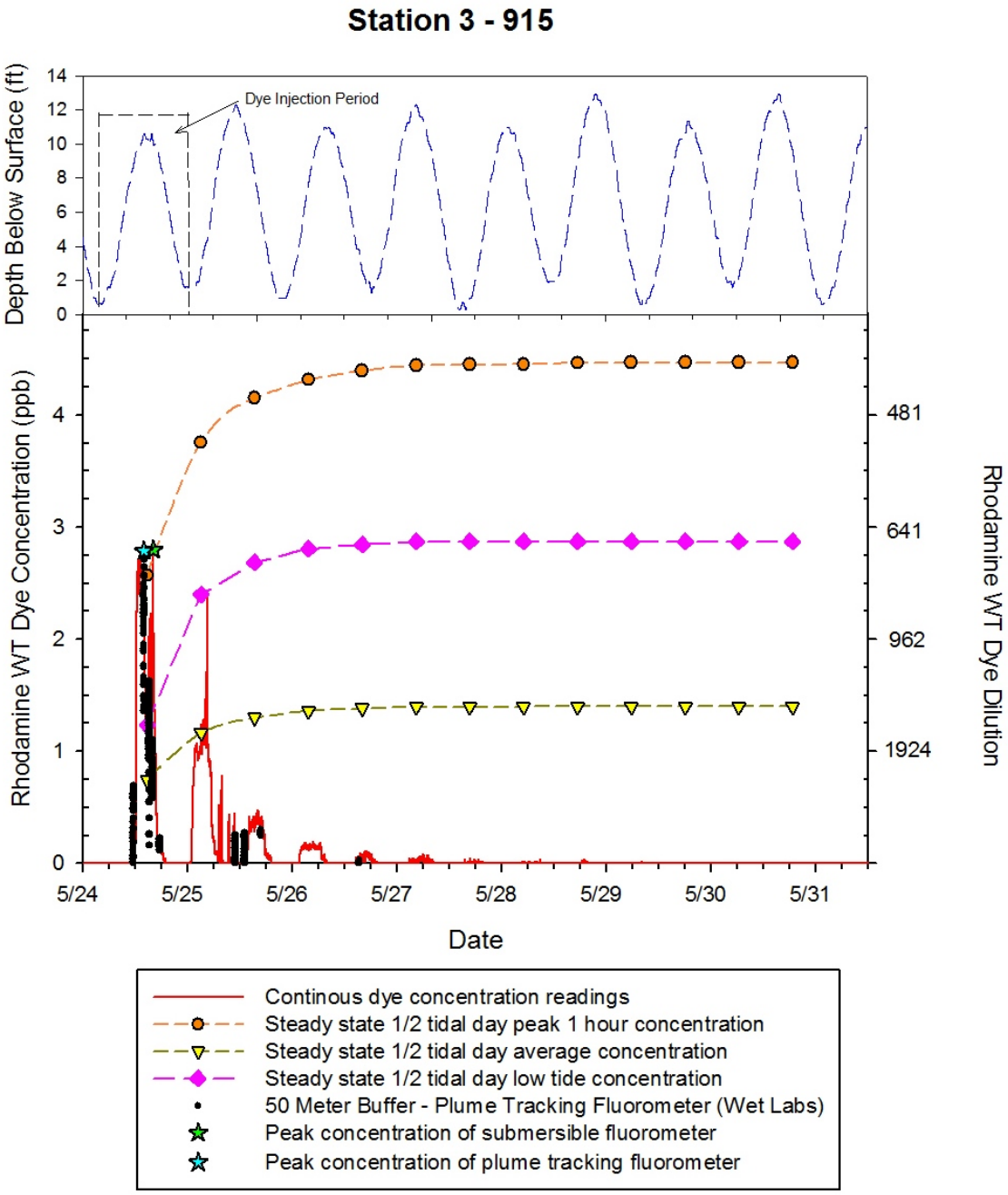


Figure 6 – Station 4 Submersible WET Labs Data

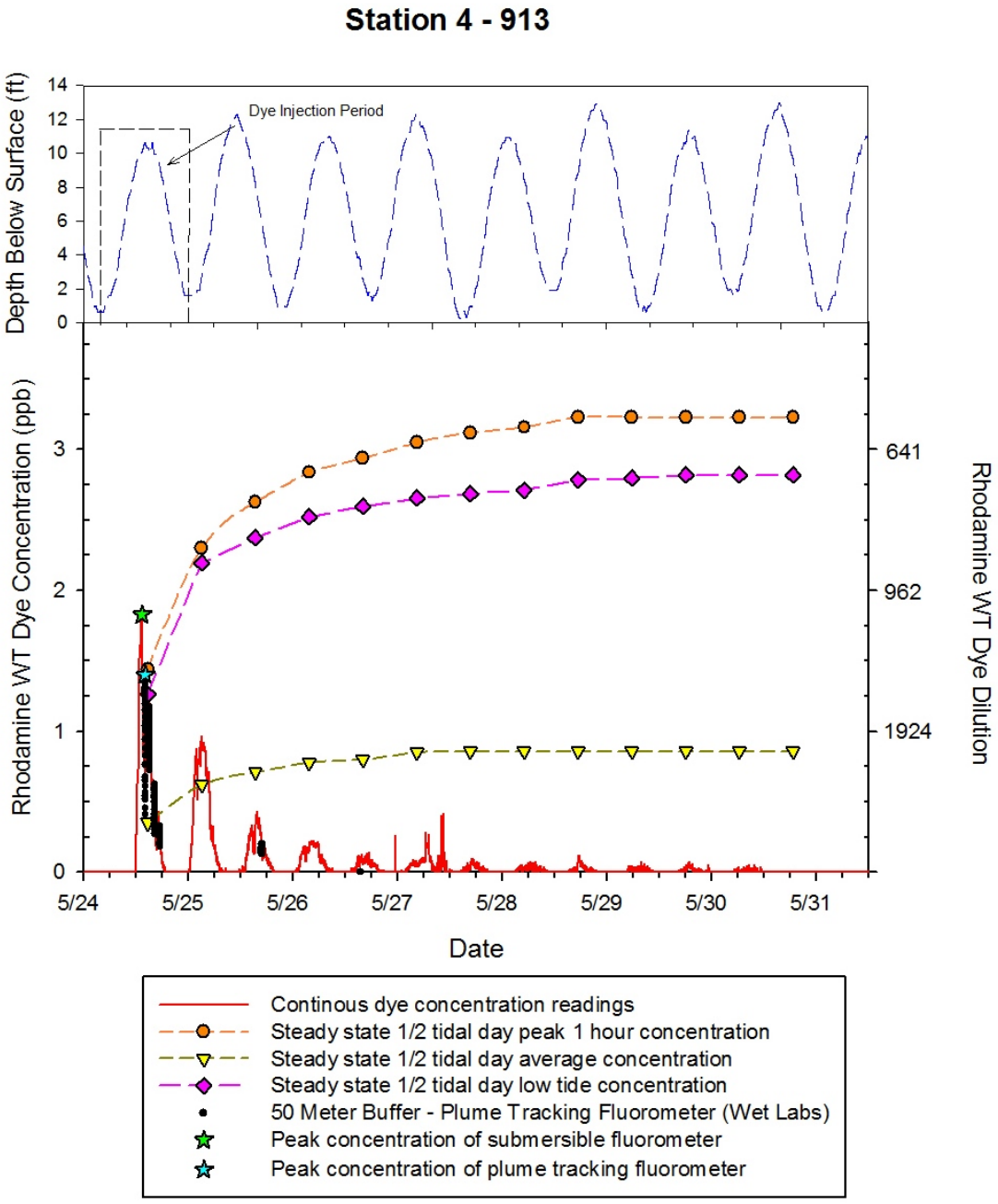


Figure 7 – Station 5 Submersible WET Labs Data

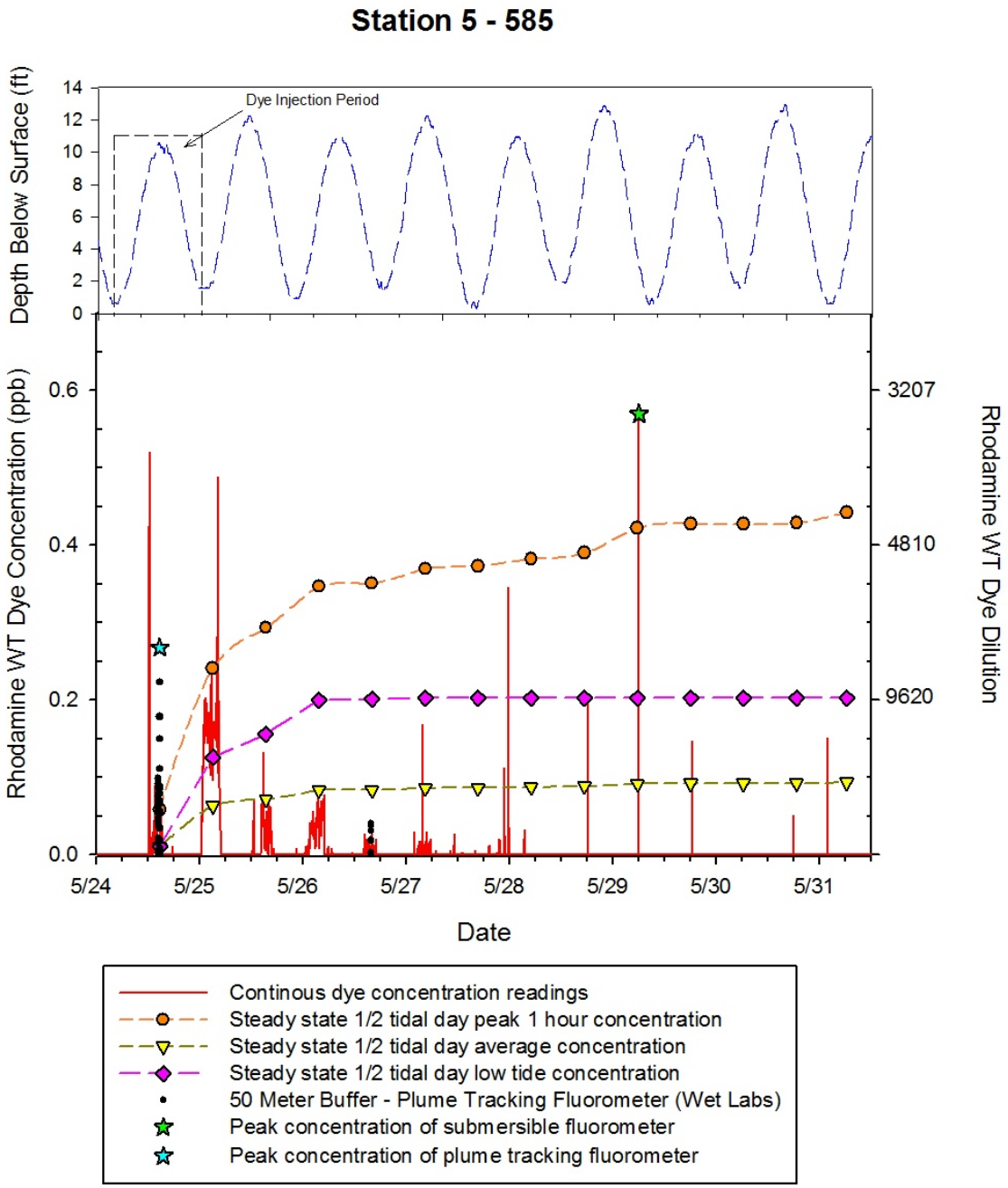


Figure 8 – Distance from Diffuser vs. Dilution (Steady State 1/2 Tidal Day Peak 1 Hour Levels)

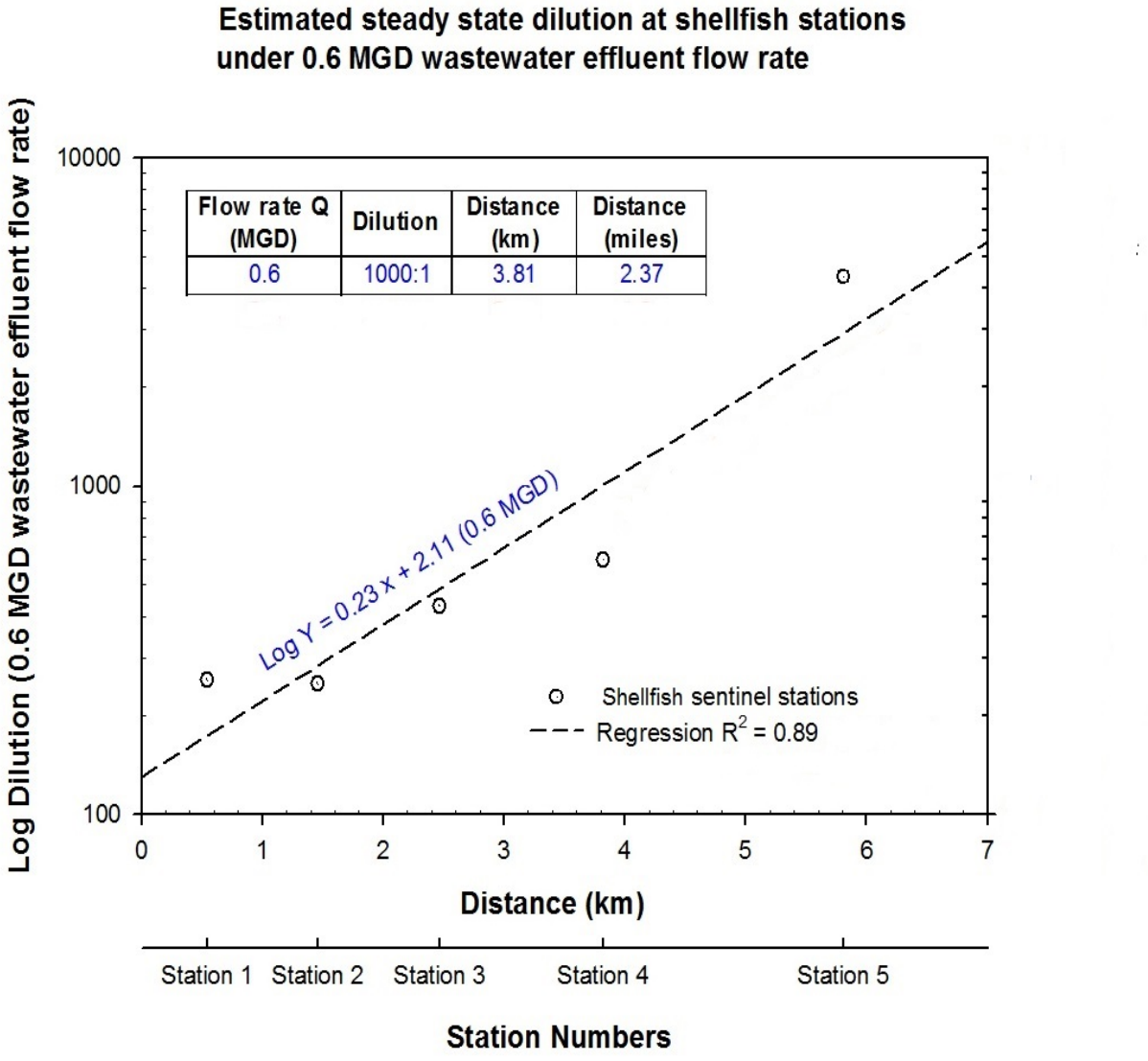


Figure 9 – Surface Concentration and Dilution on May 24, 2010

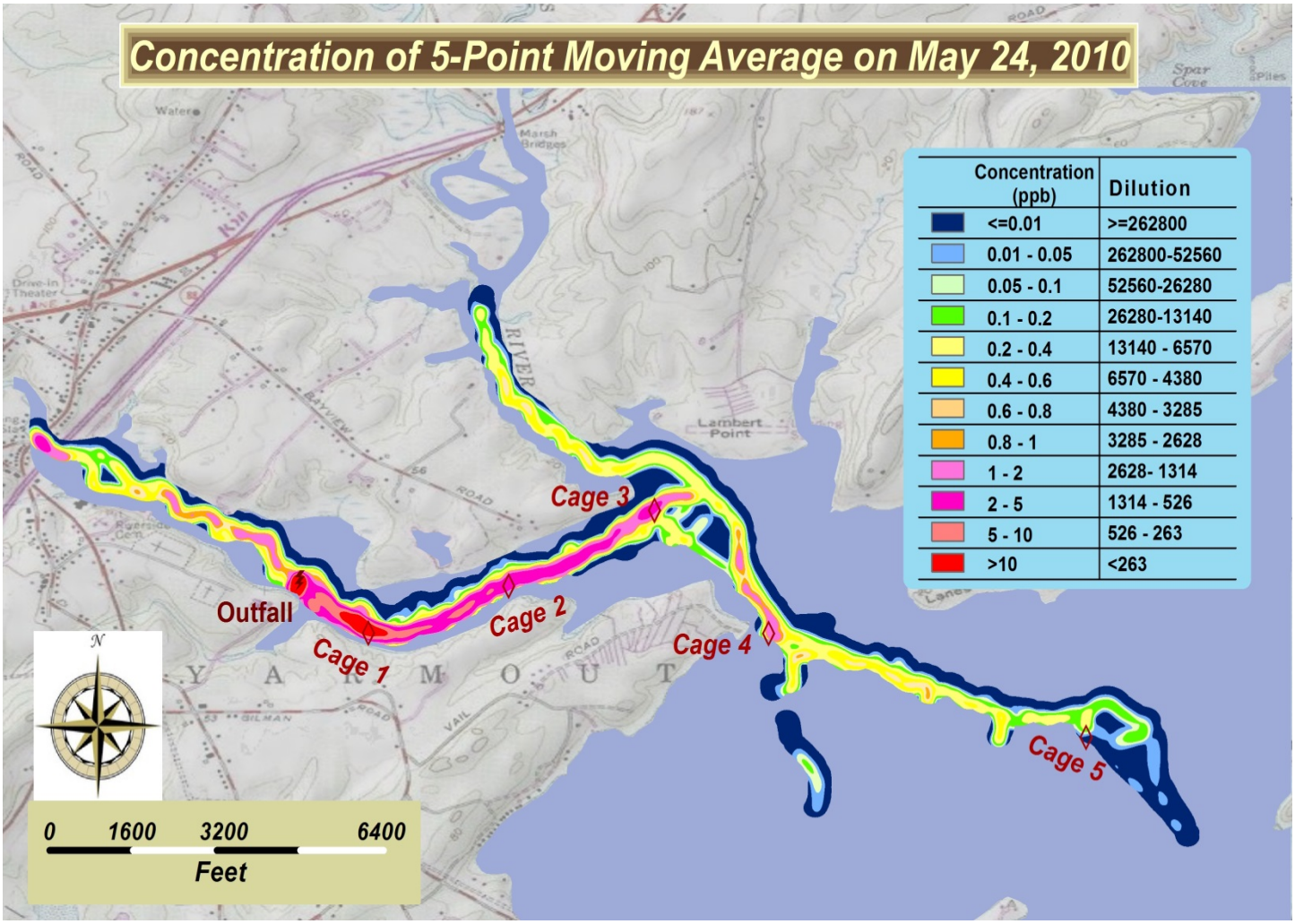


Figure 10 – Surface Concentration and Dilution on May 25, 2010

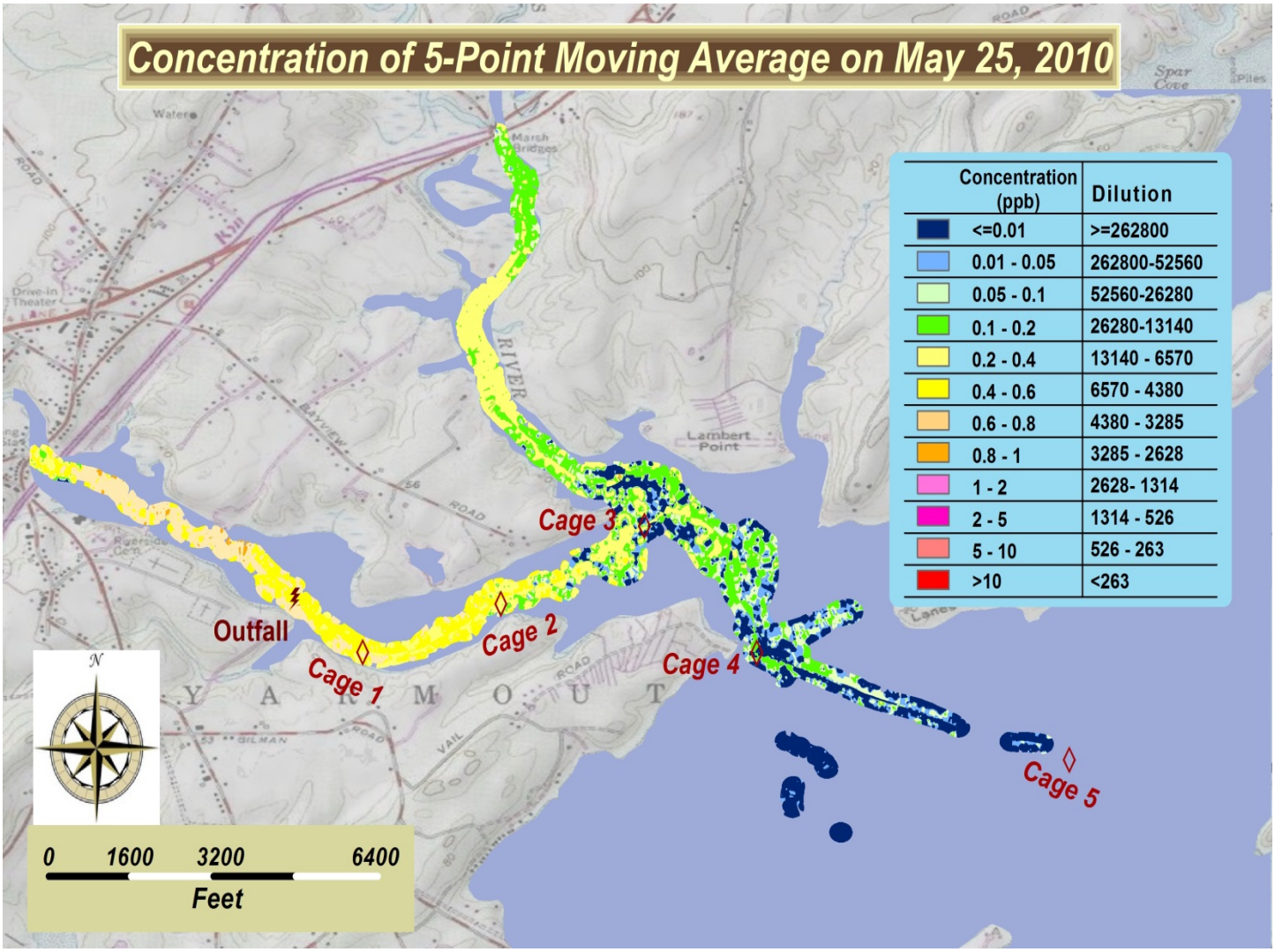


Figure 11 – Surface Concentration and Dilution on May 26, 2010

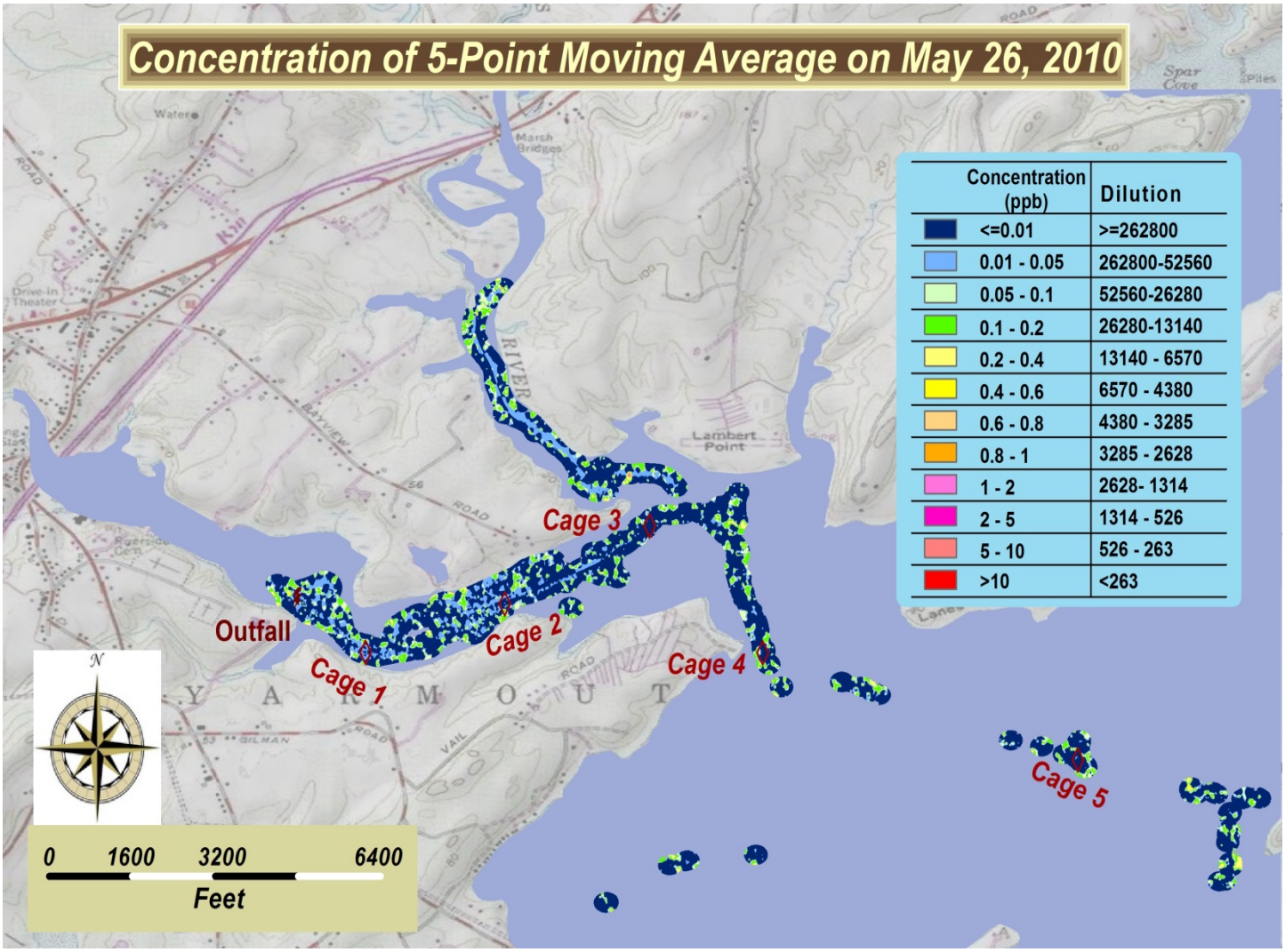


Figure 12 – Surface Concentration and Dilution for May 24 – 26, 2010 Study Period – Dry Weather WWTP Flow Rate of 0.60 MGD

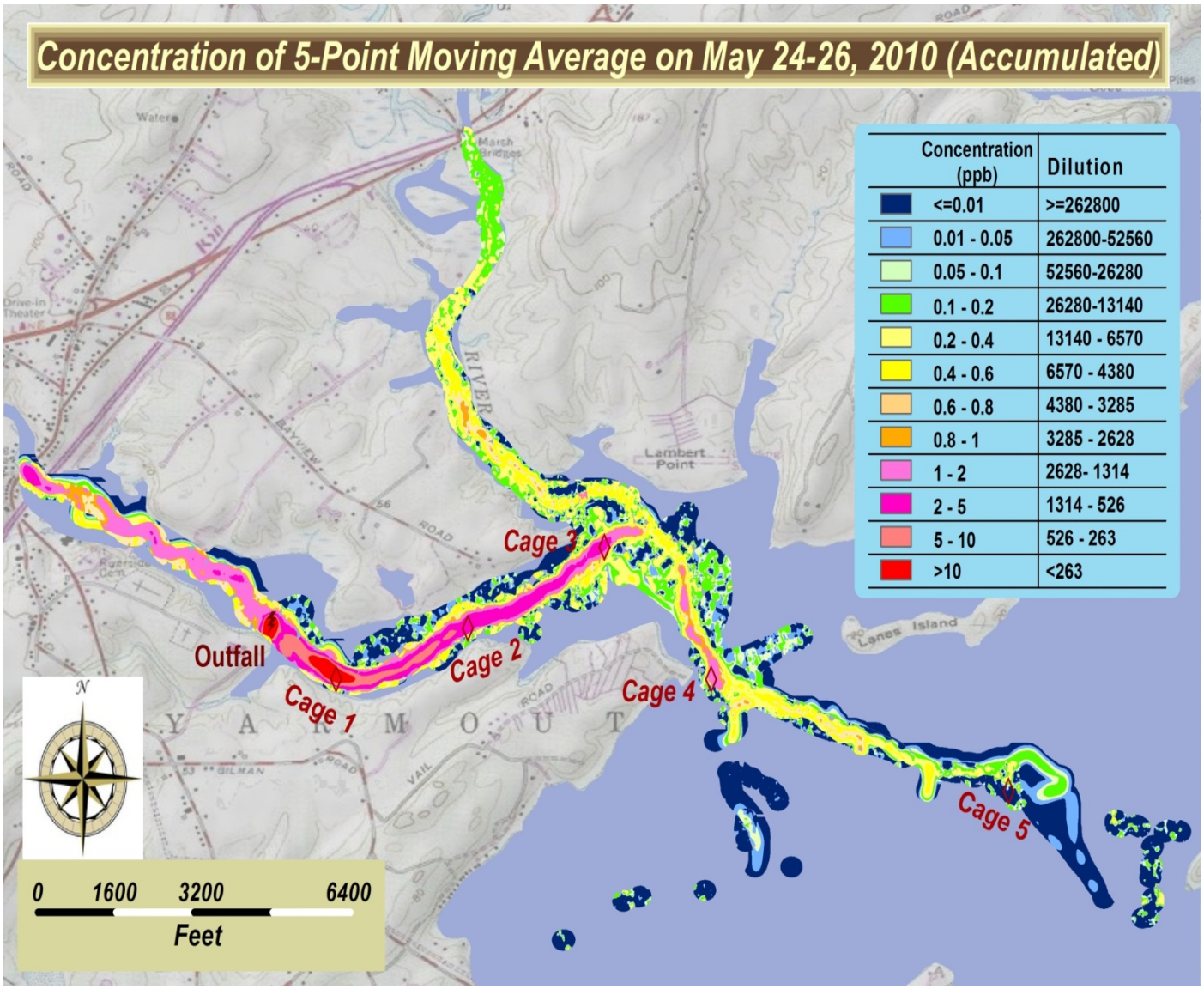


Figure 13 – Surface Concentration and Dilution Predicted Results for WWTP Flow Rate of 2.5 MGD

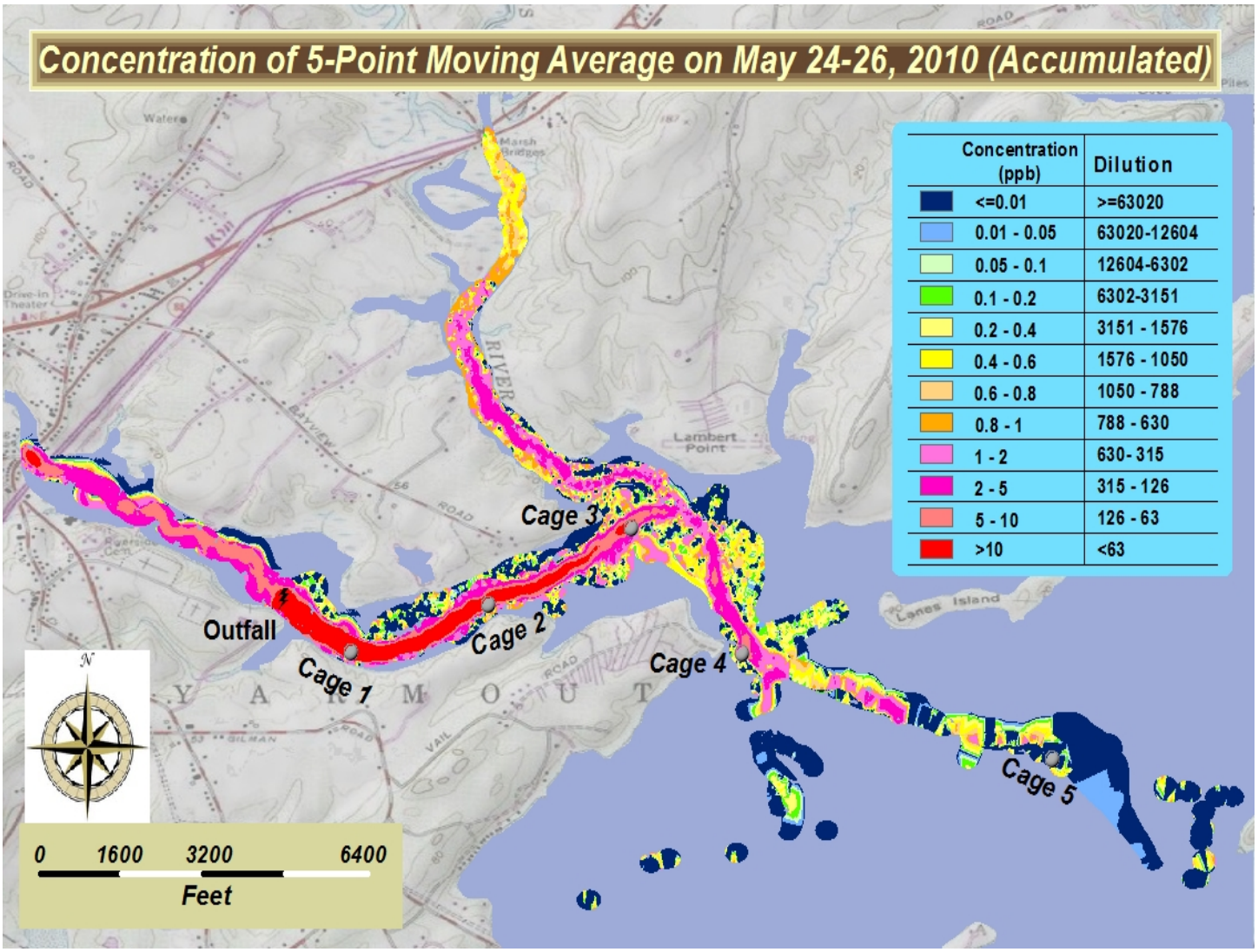
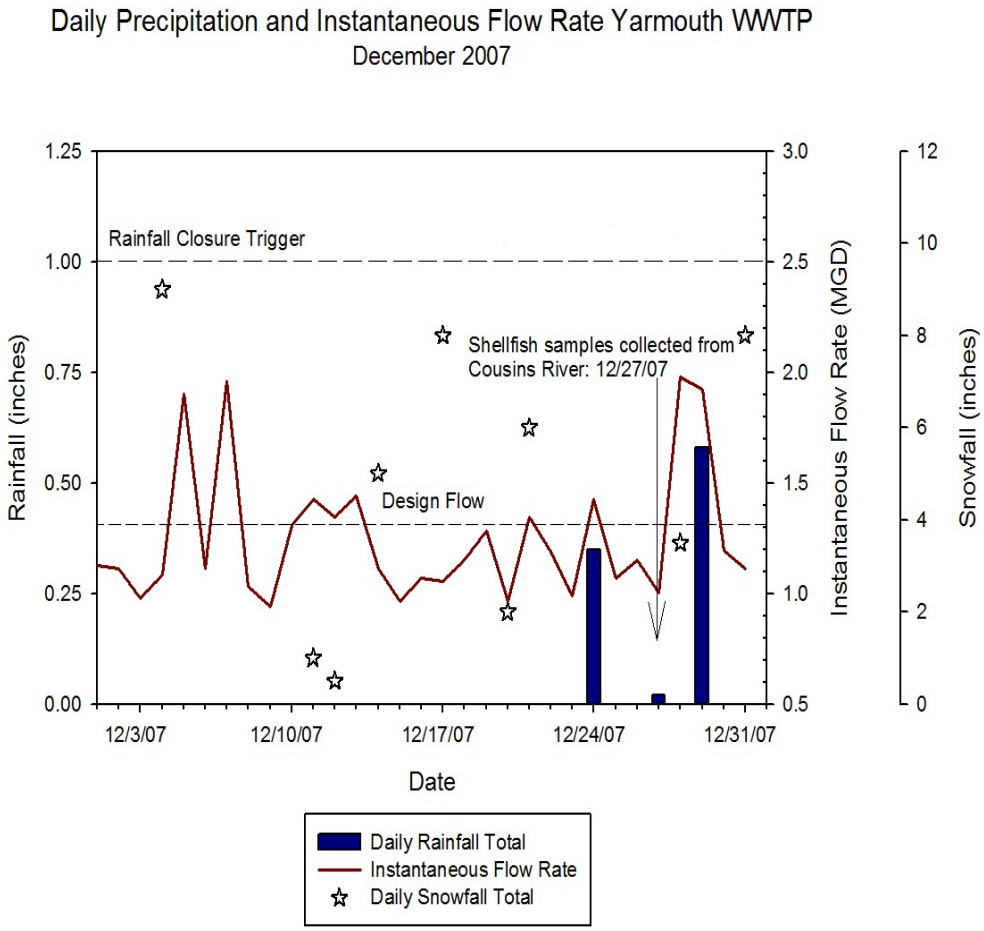


Figure 14 – Daily Precipitation and Instantaneous Flow Rate at the Yarmouth WWTP in December 2007 and MSC Results in Shellfish Samples Collected from the Cousins River



Shellfish samples collected from Cousins River:12/27/07

Sample 1	Sample 2	Sample 3	Mean	GeoMean
PFU/100g	PFU/100g	PFU/100g	PFU/100g	PFU/100g
6969	4381	7361	6237	6080

Additional Shellfish samples collected from Cousins River: 11/30/06 and 1/9/07

	Sample
Date	PFU/100 g
11/30/2006	1800
1/9/2007	2400

*Mean and Geomean MSC levels are from triplicate sampling

Figure 15 – Profile Concentration of 5-Point Moving Average on May 24, 2010

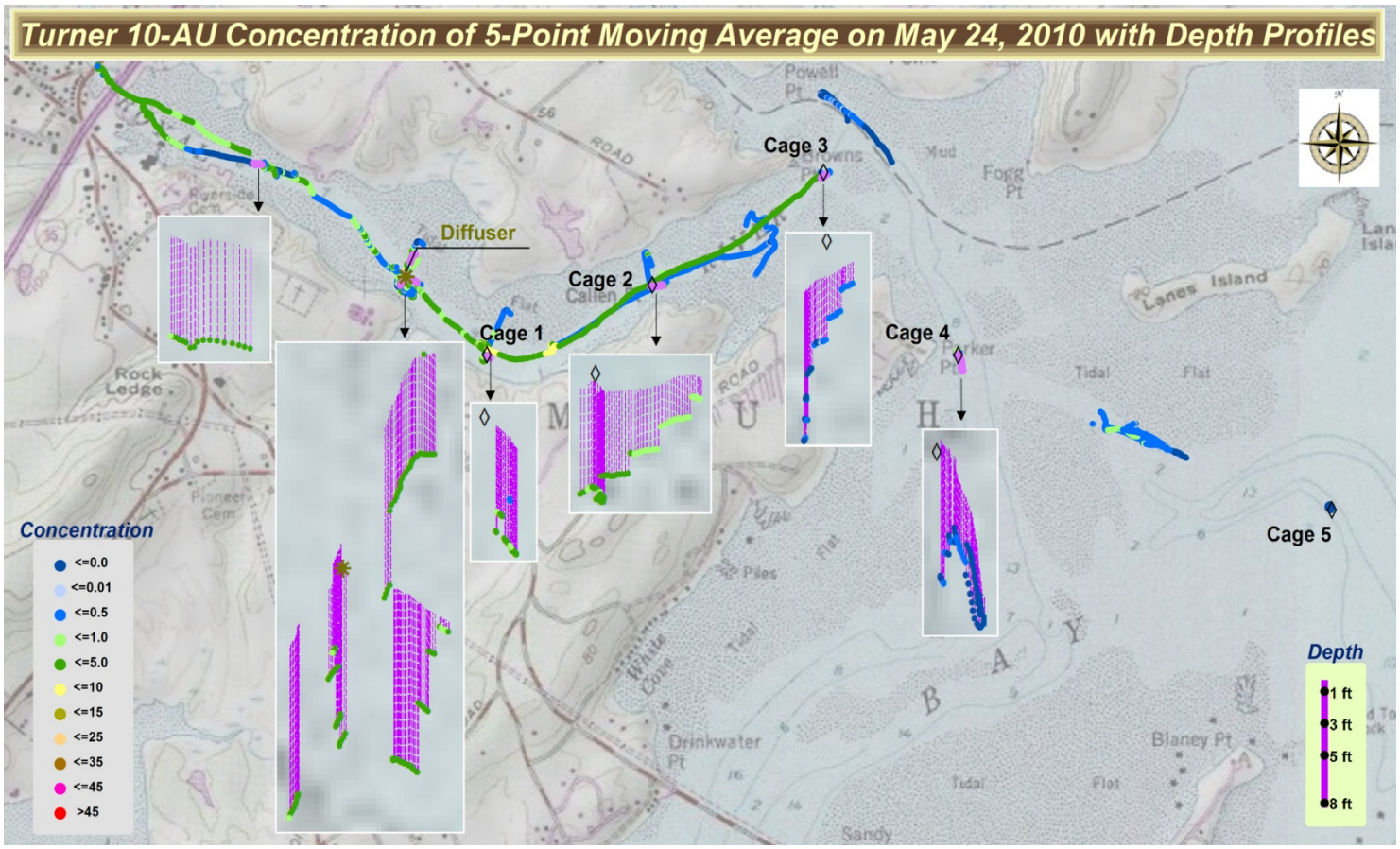
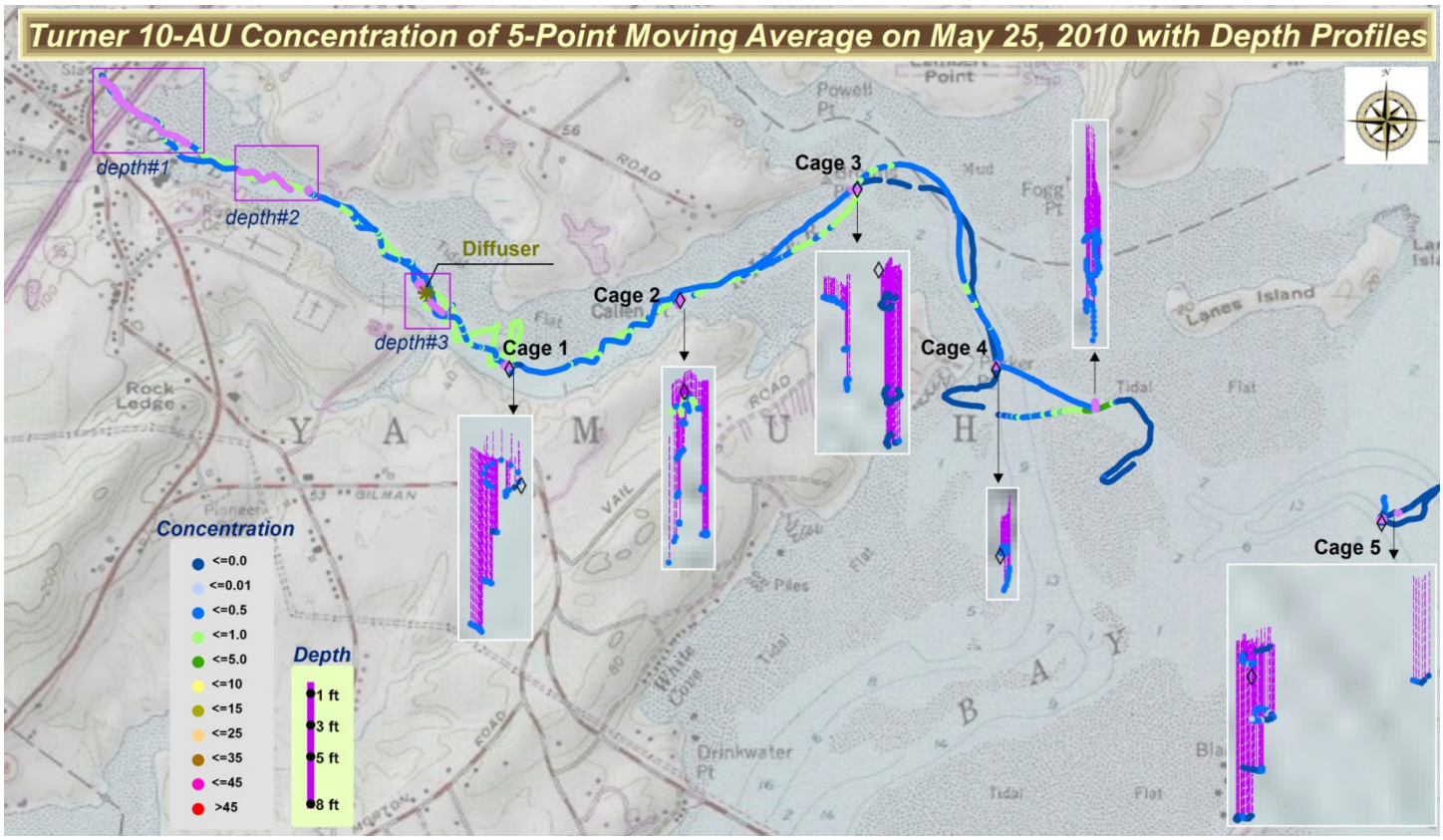


Figure 16 – Profile Concentration of 5-Point Moving Average on May 25, 2010



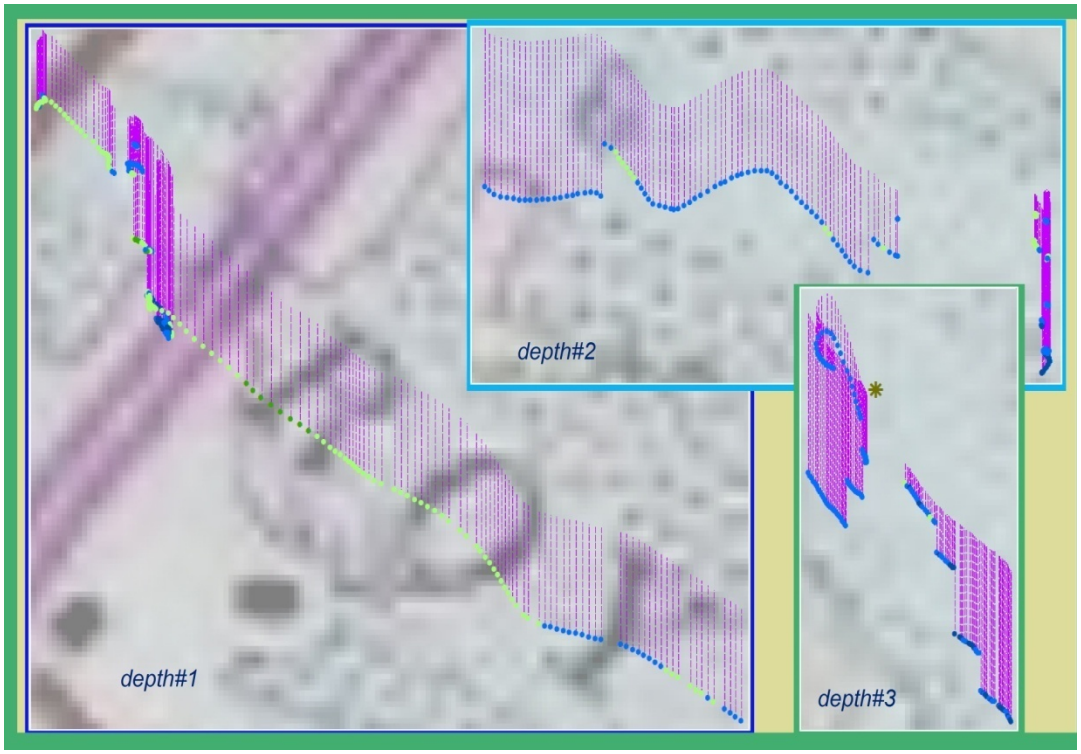


Figure 17a – Microbial Indicator Results for Yarmouth WWTP Influent and Effluent on April 7, 2010 (6 weeks prior to study)

Sample #	Date	Type	FC cfu/100ml	EC cfu/100ml	MSC pfu/100ml
TA-ME3-040710	4/7/2010	Influent	700,000	700,000	145,000
TA-ME4-040710	4/7/2010	Effluent	< 1	< 1	< 10

Figure 17b - Microbial Indicator Results for Yarmouth WWTP Influent and Pre-Chlorinated Effluent on May 21 – 23, 2010 (during the study period)

Sample #	Name	Type	Date	Time	FC	*E. coli*	MSC	Notes
			Collected		cfu/100ml	cfu/100ml	PFU/100ml	
7	Post Chlor Effluent L	5 h Comp	5/21/2010	01:00-06:00	4	3	9.9	Comp is 80ml/h
8	Post Chlor Effluent H	5 h Comp	5/21/2010	07:00-12:00	Not collected	Not collected	Not collected	ISCO Error (EPA battery)
9	Pre Chlor Effluent L	5 h Comp	5/21/2010	01:00-06:00	26500	25000	480	
10	Pre Chlor Effluent H	5 h Comp	5/21/2010	07:00-12:00	17000	15500	500	
11	Influent L	5 h Comp	5/21/2010	01:00-06:00	2300000	2150000	116000	
12	Influent H	5 h Comp	5/21/2010	07:00-12:00	5950000	5500000	134000	
13	Post Chlor Effluent L	5 h Comp	5/22/2010	01:00-06:00	1	0.9	9.9	
14	Post Chlor Effluent H	5 h Comp	5/22/2010	07:00-12:00	0.9	0.9	9.9	
15	Pre Chlor Effluent L	5 h Comp	5/22/2010	01:00-06:00	7500	1300	520	
16	Pre Chlor Effluent H	5 h Comp	5/22/2010	07:00-12:00	4000	2500	370	
17	Influent L	5 h Comp	5/22/2010	01:00-06:00	2000000	1850000	278000	
18	Influent H	5 h Comp	5/22/2010	07:00-12:00	2800000	2550000	274000	
19	Post Chlor Effluent L	5 h Comp	5/23/2010	01:00-06:00	0.9	0.9	9.9	
20	Post Chlor Effluent H	5 h Comp	5/23/2010	07:00-12:00	0.9	0.9	9.9	
21	Pre Chlor Effluent L	5 h Comp	5/23/2010	01:00-06:00	28000	17500	960	
22	Pre Chlor Effluent H	5 h Comp	5/23/2010	07:00-12:00	18000	10500	1200	
23	Influent L	5 h Comp	5/23/2010	01:00-06:00	13400000	10650000	528000	
24	Influent H	5 h Comp	5/23/2010	07:00-12:00	15400000	13200000	528000	

Figure 18 – FDA Microbiological Testing Results of Oysters (June 2, 2010)

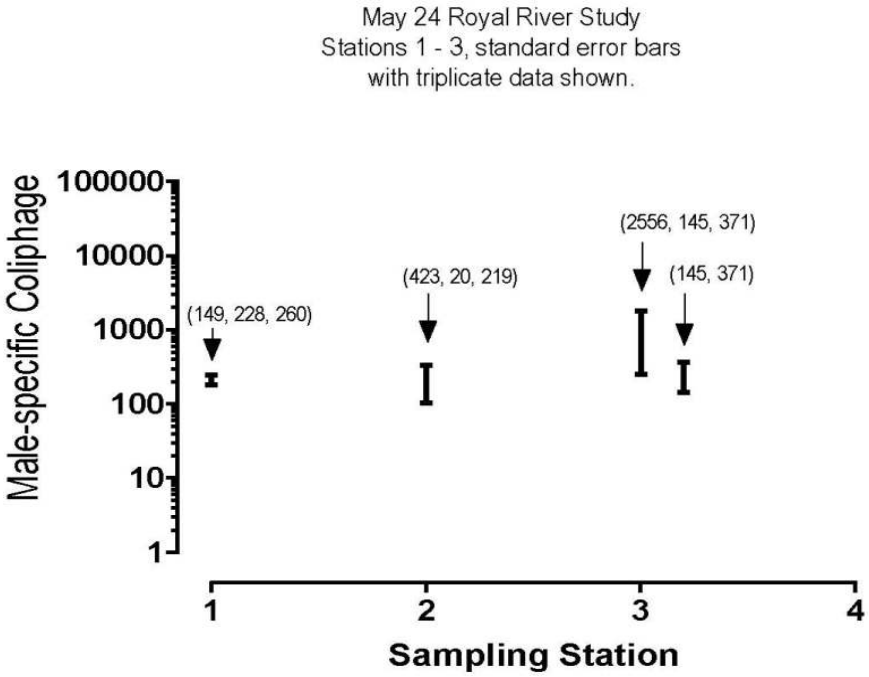
Station	MSC/100g	FC/100g	E. coli/100g	NoV GI	NoV GII	Adenovirus
S1	6.5	170	130	non-detected	non-detected	non-detected
S2	6.1	110	20	non-detected	non-detected	non-detected
S3	7.1	170	<18	non-detected	non-detected	non-detected
S4	6.6	20	<18	non-detected	non-detected	non-detected
S5	13	45	<18	non-detected	non-detected	non-detected

Figure 19 – Microbial Indicator and Virus Results for Soft-Shell Clams Harvested Near Stations - Provided by Spinney Creek Shellfish, Inc.

Trial #	Sampling Date	Cycle Day	FC FC/100g	MSC PFU/100g
May 24 2010				
SS 1	05/25/10	0-day	93	149, 228, 260
SS 2		0-day	130	423, 20,219
SS 3		0-day	110	2556, 145, 371
May 27 2010				
SS 1	05/25/10	0-day	single	98, 78, 157
SS 2		0-day	single	39, 70, 59
SS 2.5		0-day	single	117, 294, 158
SS 4		0-day	single	263, 197, 125
#11				
June 2 2010	06/02/10	0-day	single	Triplicate
	06/04/10	2-day		Triplicate
	06/06/10	4-day		

- NV samples run on zero hour samples as possible
- Endpoint NV sampled when MSC <50PFU/100gm
- SS 2.5 is between Stations 2 and 3

Figure 20 - MSC Findings in Soft-Shell Clams Collected Near Stations 1, 2, and 3 During the Hydrographic Dye Study - Provided by Spinney Creek Shellfish, Inc.



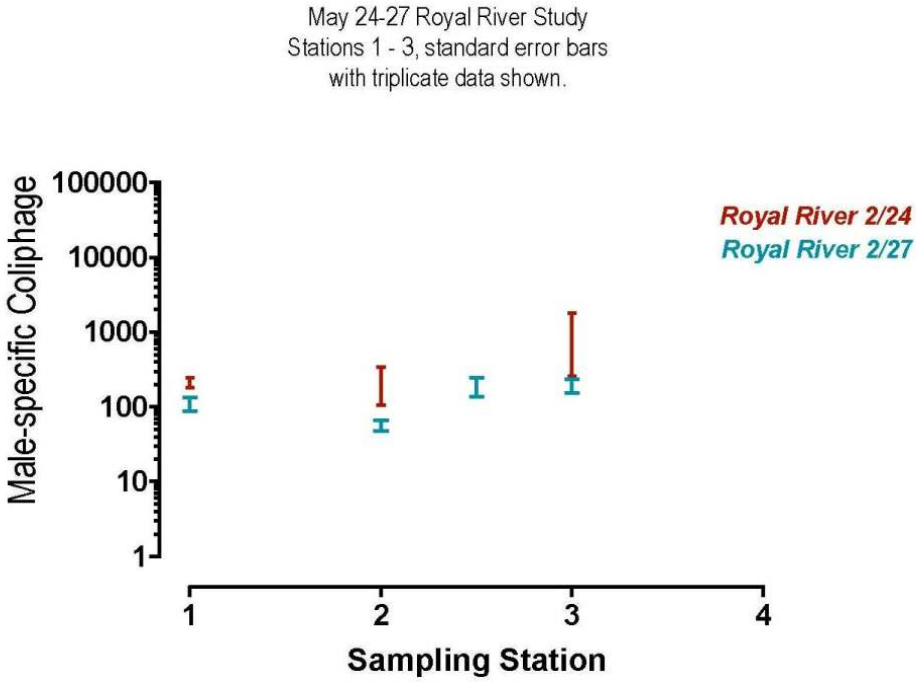


Figure 21 – Method and Biological Variation of MSC Findings in Soft-Shell Clams Collected Near Stations 1, 2, and 3 on May, 24, 2010 - Provided by Spinney Creek Shellfish, Inc.

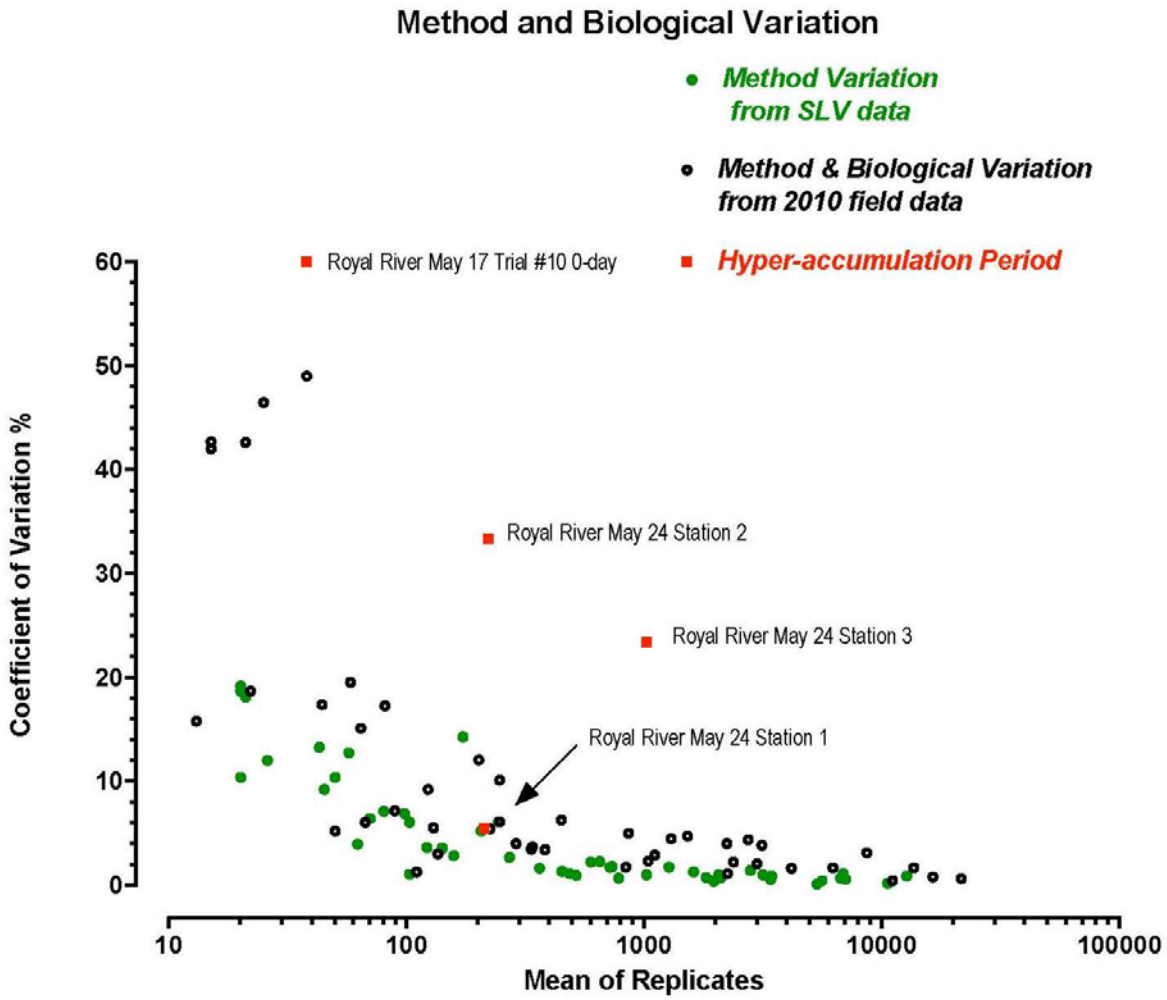


Figure 22 – Seasonality of MSC Findings in Soft-Shell Clams in the Royal River (and Fore River) - Provided by Spinney Creek Shellfish, Inc.

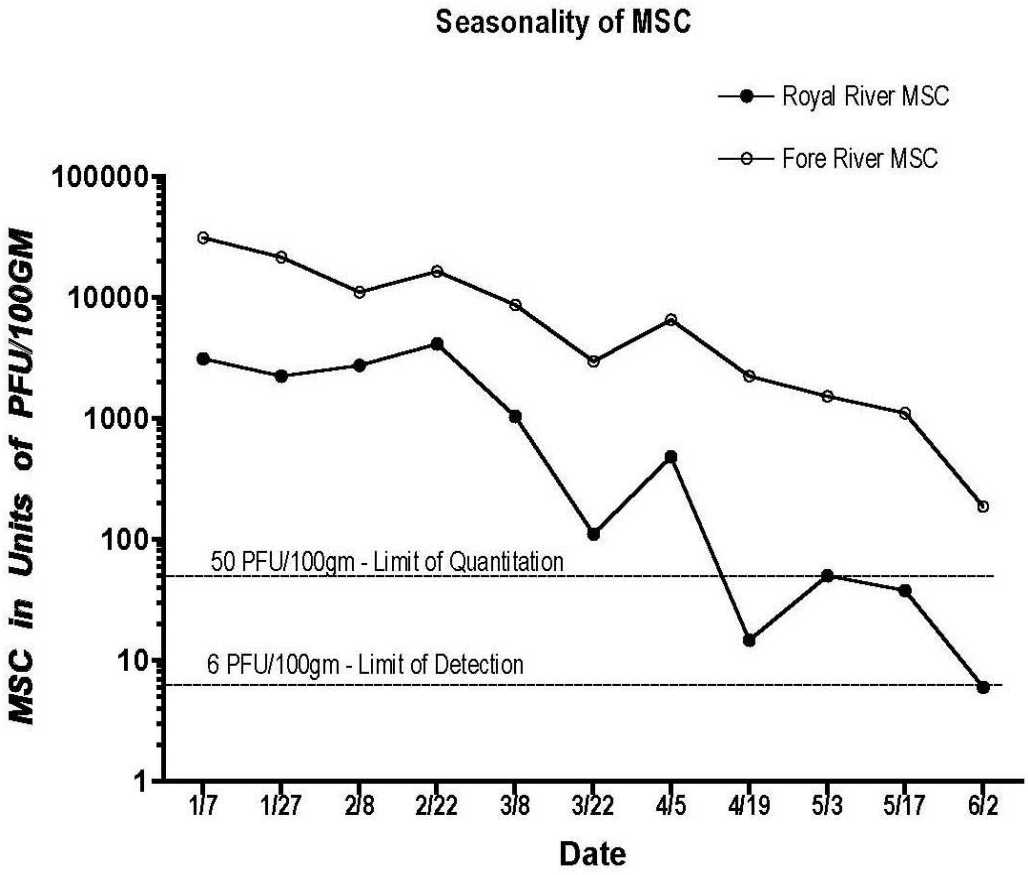


Figure 23 – Recommendation for a Conditionally Approved Growing Area between Mouth of Royal River and Blaney Point

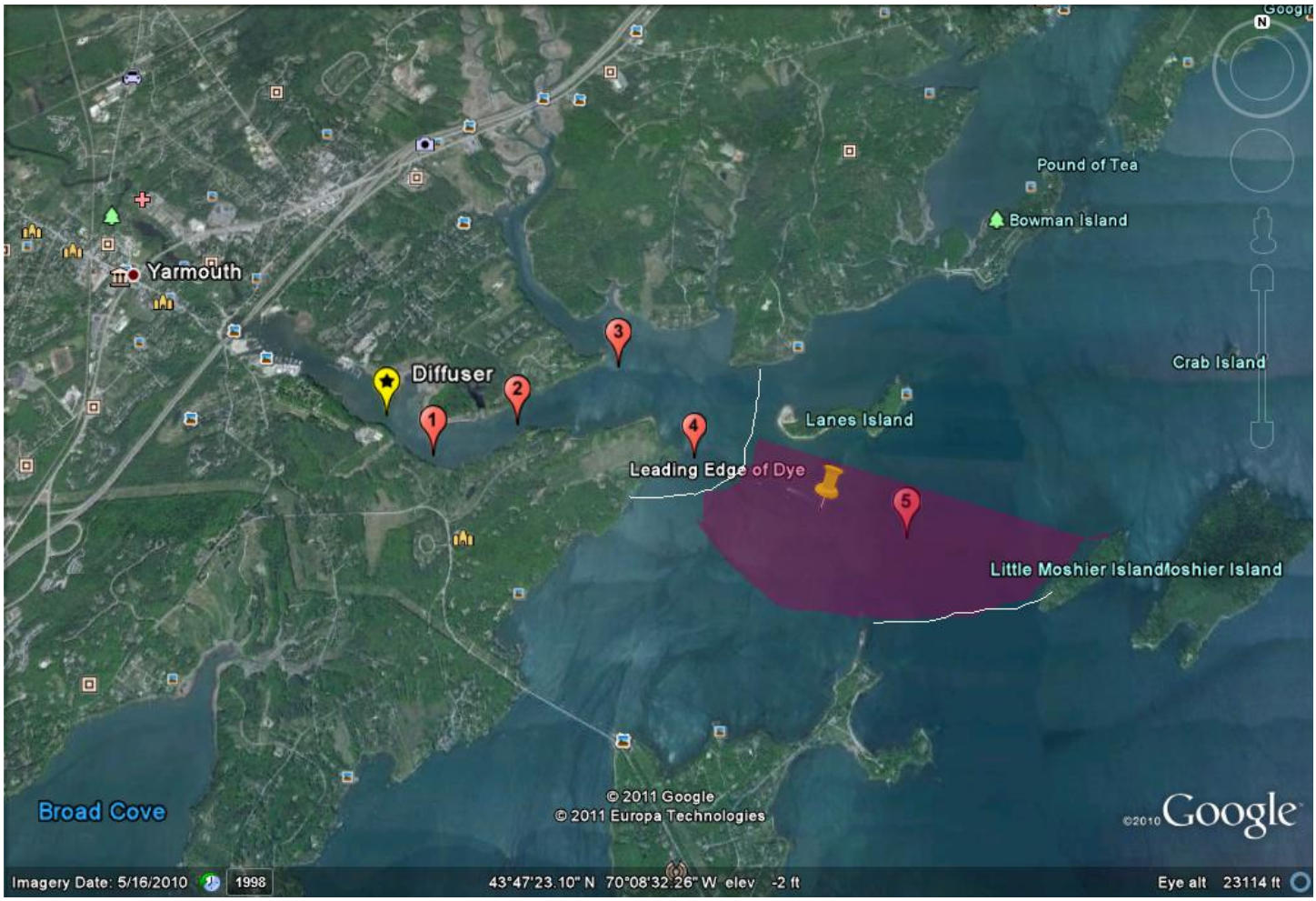


Figure 24 – Regression Curve of MSC in Effluent vs. Instantaneous Flow Rate for the Yarmouth WWTP