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### Fore! The Effect of Poquoy Brook Golf Course on the Water Quality of Poquoy Brook

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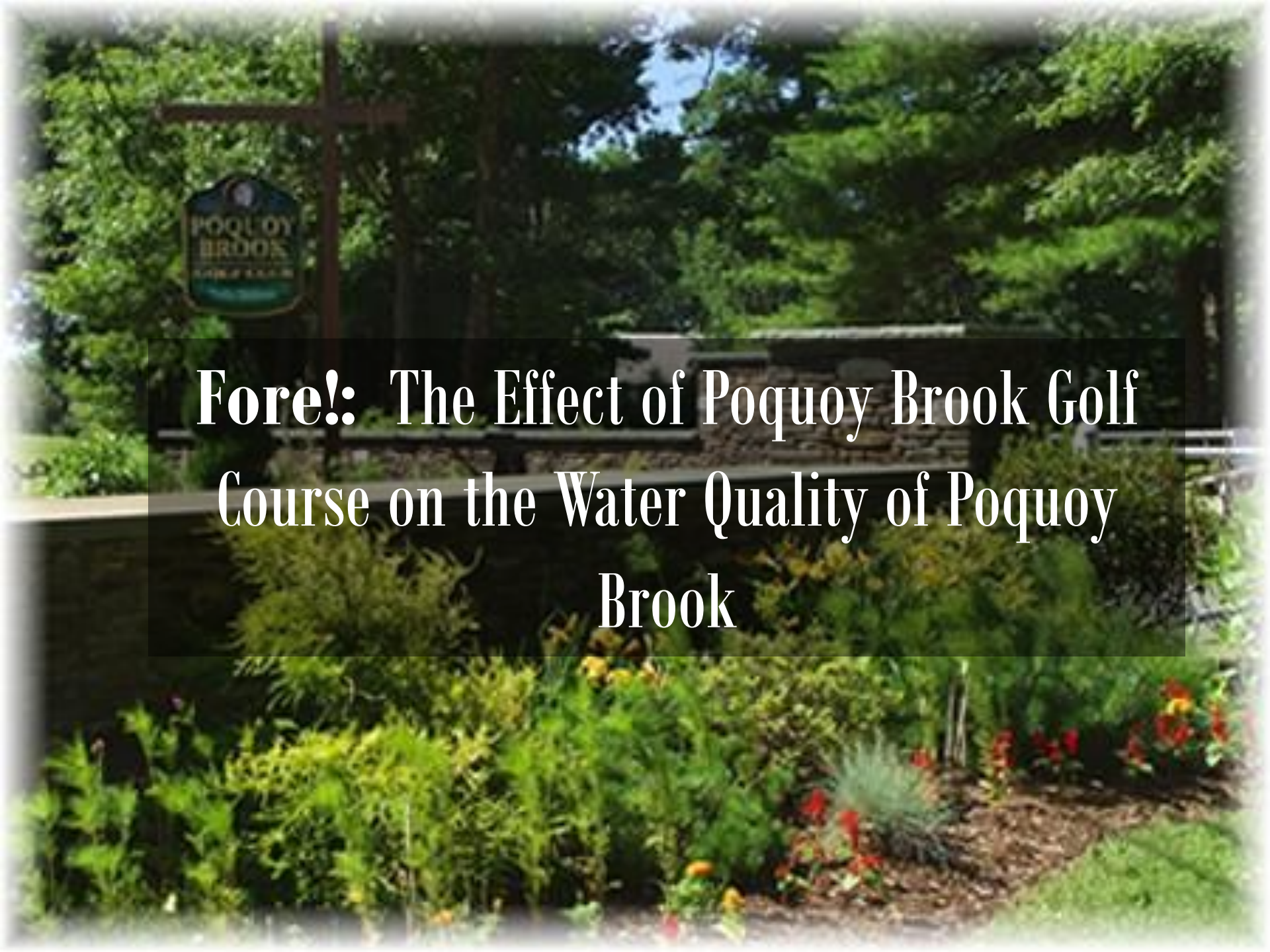
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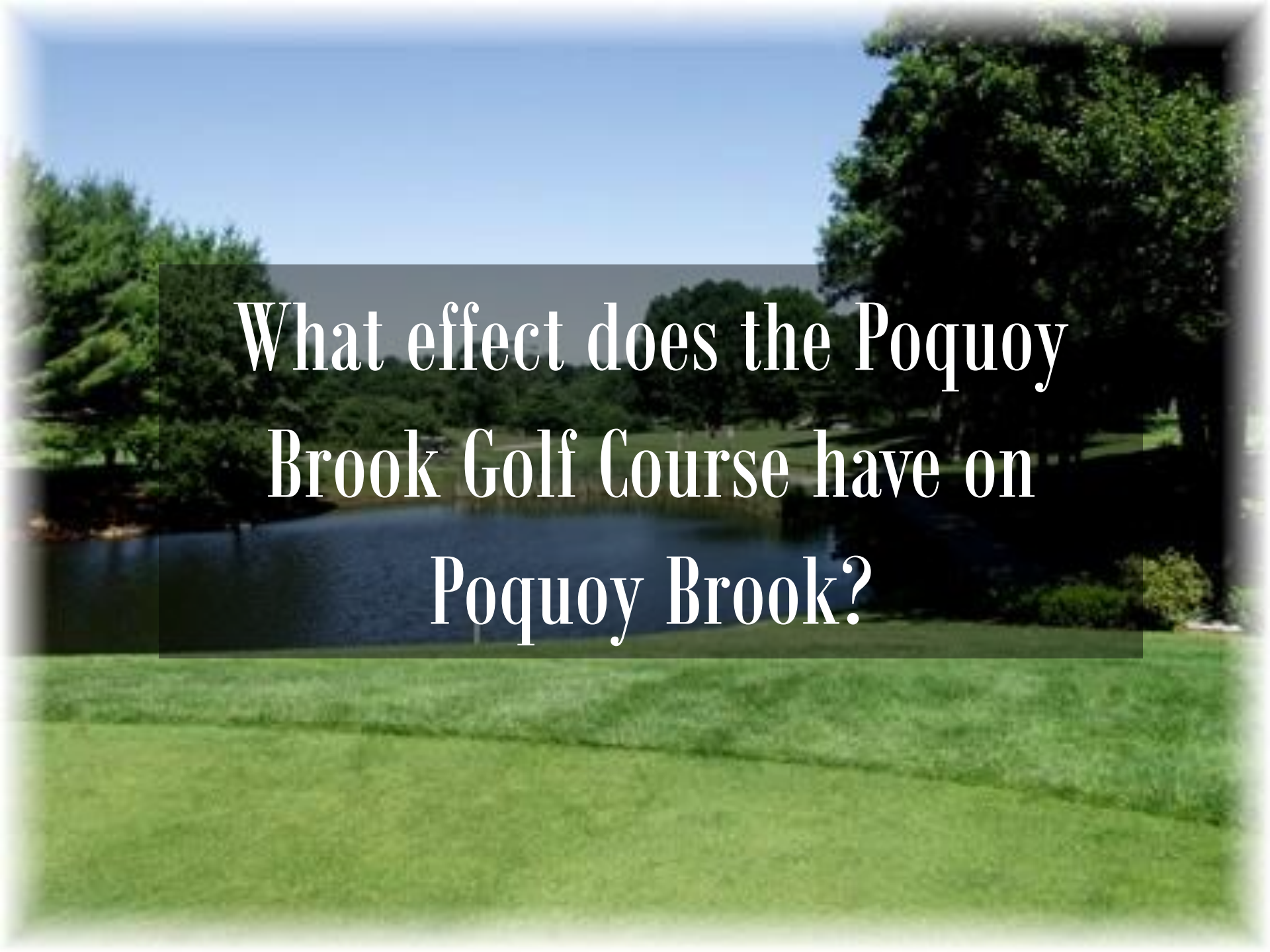
A photograph of a golf course with a sign that reads "POQUOY BROOK" and "EST. 1988". The sign is mounted on a wooden post. In the foreground, there is a garden with various plants, including yellow and red flowers. The background shows a golf course with trees and a building.

# Fore!: The Effect of Poquoy Brook Golf Course on the Water Quality of Poquoy Brook





**By John Cody, Jessica Levy, Andrea Martin,  
Sarah Pomeroy, and Chelsea Souza**

A scenic photograph of a golf course. In the foreground, there is a well-maintained green lawn. In the middle ground, a calm pond reflects the surrounding greenery. The background is filled with dense, lush green trees under a clear blue sky. The text is overlaid on a semi-transparent dark grey rectangular area in the center of the image.





What effect does the Poquoy  
Brook Golf Course have on  
Poquoy Brook?



# History of Poquoy Brook

Poquoy Brook Golf Course was designed by Jeffrey Cornish and built by Ray Marcos in 1962. Since the golf course's opening, it has seen two owners, the Marcos family, and Charlie Dickow, who purchased it in 1992. Poquoy Brook Golf Course covers 168 acres and sees an average of 127 golfers a day in the high season (or anywhere between 80-240). There have been recent renovations on the 2<sup>nd</sup> and 9<sup>th</sup> tee.

# 2008 Poquoy Brook Land Use Map

- Legend**
-  Crop Land
  -  Pasture
  -  Forest
  -  Non-Forested Wetland
  -  Mining
  -  Open Land
  -  Participation Recreation
  -  Spectator Recreation
  -  Water-Based Recreation
  -  Multi-Family Residential
  -  High Density Residential
  -  Medium Density Residential
  -  Low Density Residential
  -  Salt Water Wetland
  -  Commercial
  -  Industrial
  -  Urban Open
  -  Transportation
  -  Waste Disposal
  -  Water
  -  Cranberry Bog
  -  Powerline
  -  Golf Course
  -  Marina
  -  New Ocean
  -  Urban Public
  -  Transportation Facility
  -  Heath
  -  Cemetery
  -  Orchard
  -  Nursery



0 400 800 1,600 Meters **4**

John Cody

# Cranberry Bogs Draining into Poquoy

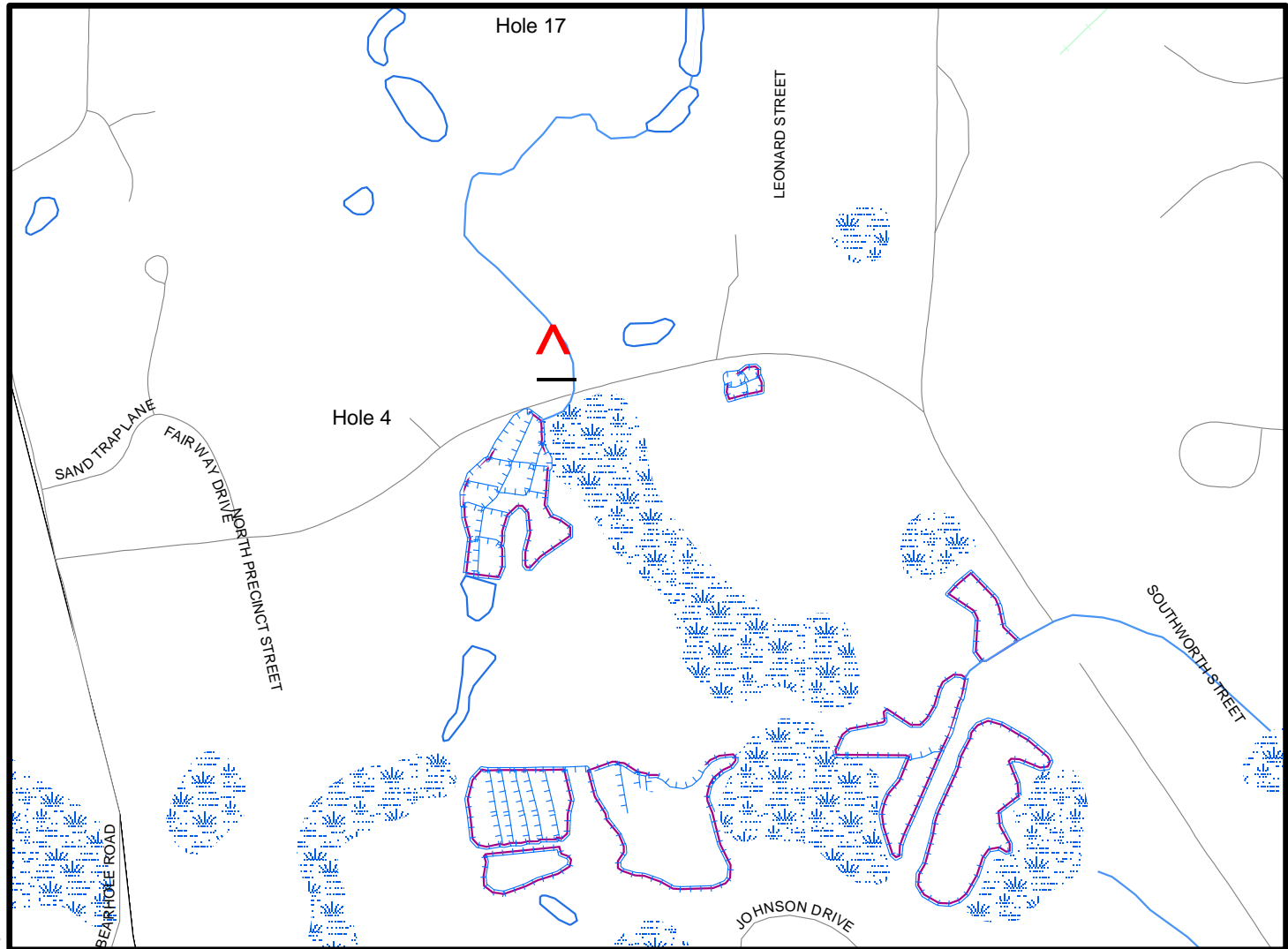
## Legend

- BC
- CSX
- G and U
- Guilford
- Housatonic
- MCR
- NECR
- P and W
- PV
- QB
- Perennial Stream
- Intermittent Stream
- Shoreline
- Intermittent Shoreline
- Manmade Shoreline
- Ditch/Canal
- Aqueduct
- Dam
- Channel in Water
- Pond, Lake, Ocean
- Reservoir
- Wetland
- Salt Wetland
- Submerged Wetland
- Cranberry Bog
- Tidal Flat
- Inundated Area
- Highway Exit Locations

## All Roads

## Road Classification

- Limited Access Highway
- Multi-lane Hwy, not limited access
- Other Numbered Highway
- Major Road, Collector
- Minor Road, Arterial



4

0 135 270 540 Meters

Jessica Levy  
2.25.08

# Transportation Around Poquoy

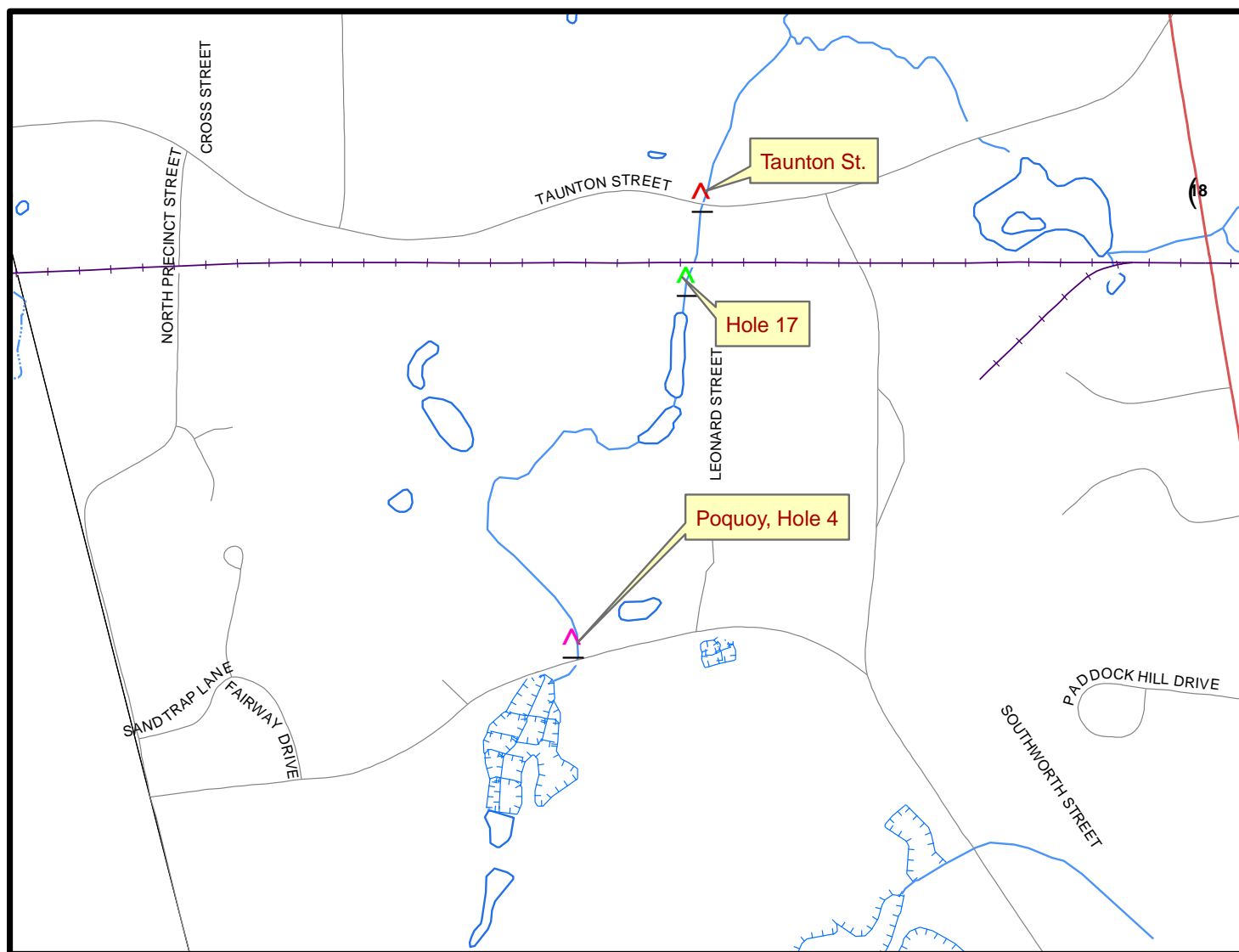
## Legend

- BC
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## All Roads

### Road Classification

- Limited Access Highway
- Multi-lane Hwy, not limited access
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- Major Road, Collector
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- Perennial Stream
- Intermittent Stream
- Shoreline
- Intermittent Shoreline
- Manmade Shoreline
- Ditch/Canal
- Aqueduct
- Dam
- Channel in Water
- MA Towns..Solid Outline



4

Andrea Martin  
2/24/07

0 205 410 820 Meters



A wide-angle photograph of a golf course landscape. In the foreground, a narrow stream flows through a grassy area, with some reeds and grasses growing in the water. A small, dark wooden bridge crosses the stream in the middle ground. The background features a line of trees, including evergreens and bare deciduous trees, under a cloudy sky. The overall scene is peaceful and natural.

# Sites





Hole 4





Hole 4





Hole 17





Hole 17





Taunton St.





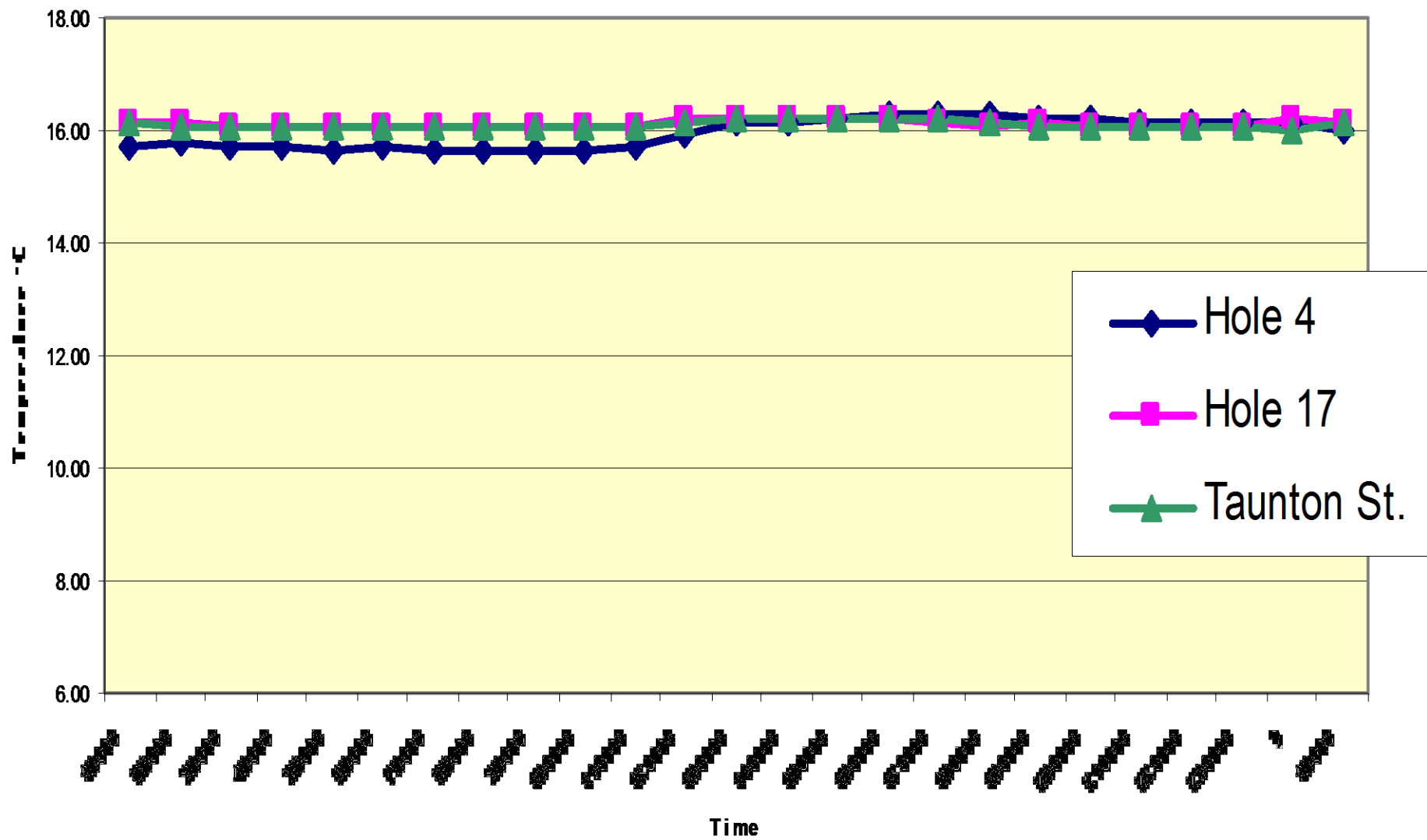
Taunton St.



A photograph of a golf course green. In the foreground, a large tree on the left casts a shadow over the grass. The green is a vibrant green and is surrounded by a dense line of trees in the background. The sky is blue with some light clouds. The word "Data" is overlaid in the center in a white serif font.

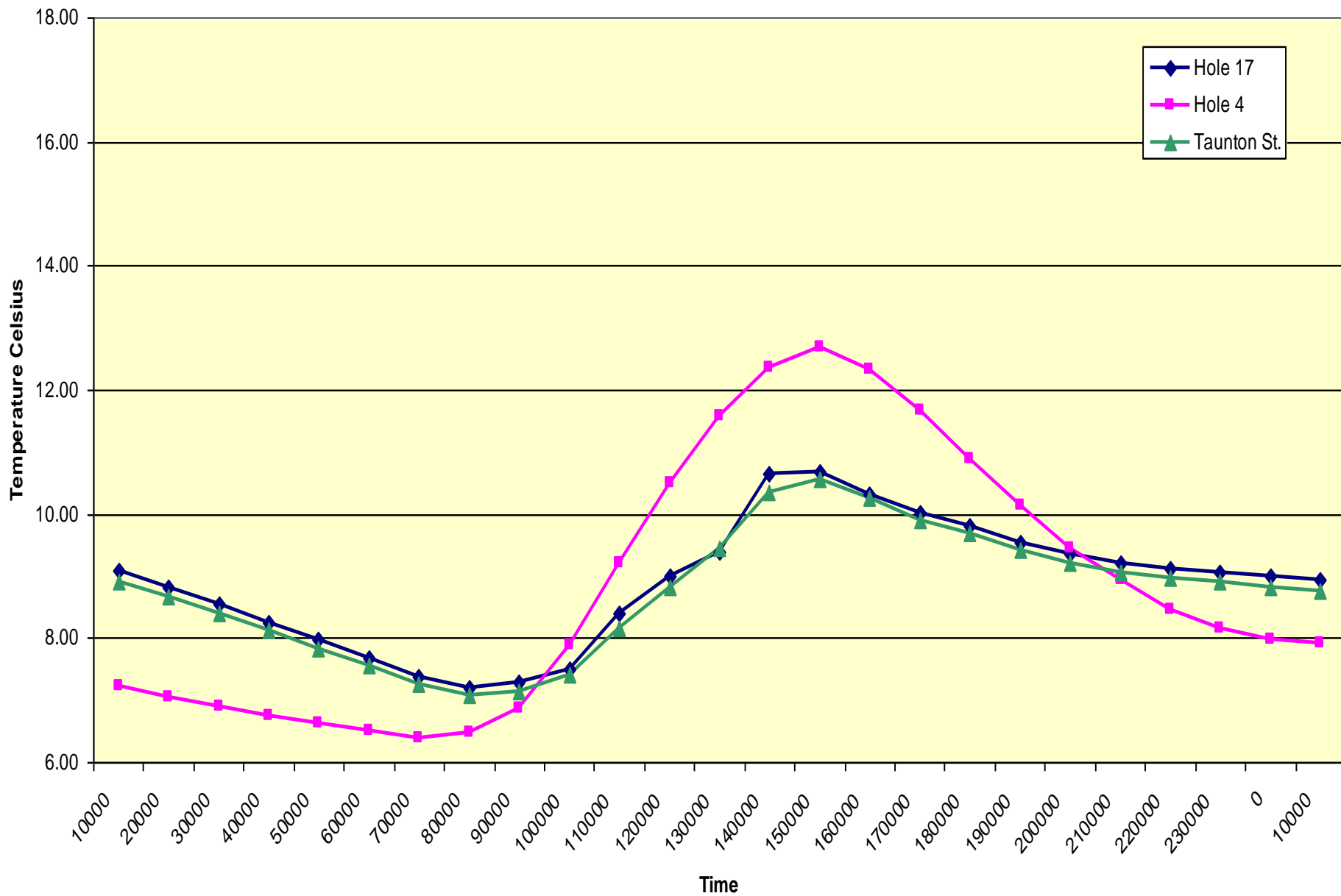
# Data

Temperature vs. Time, Poquoy Brook, 10/11/07-10/12/07



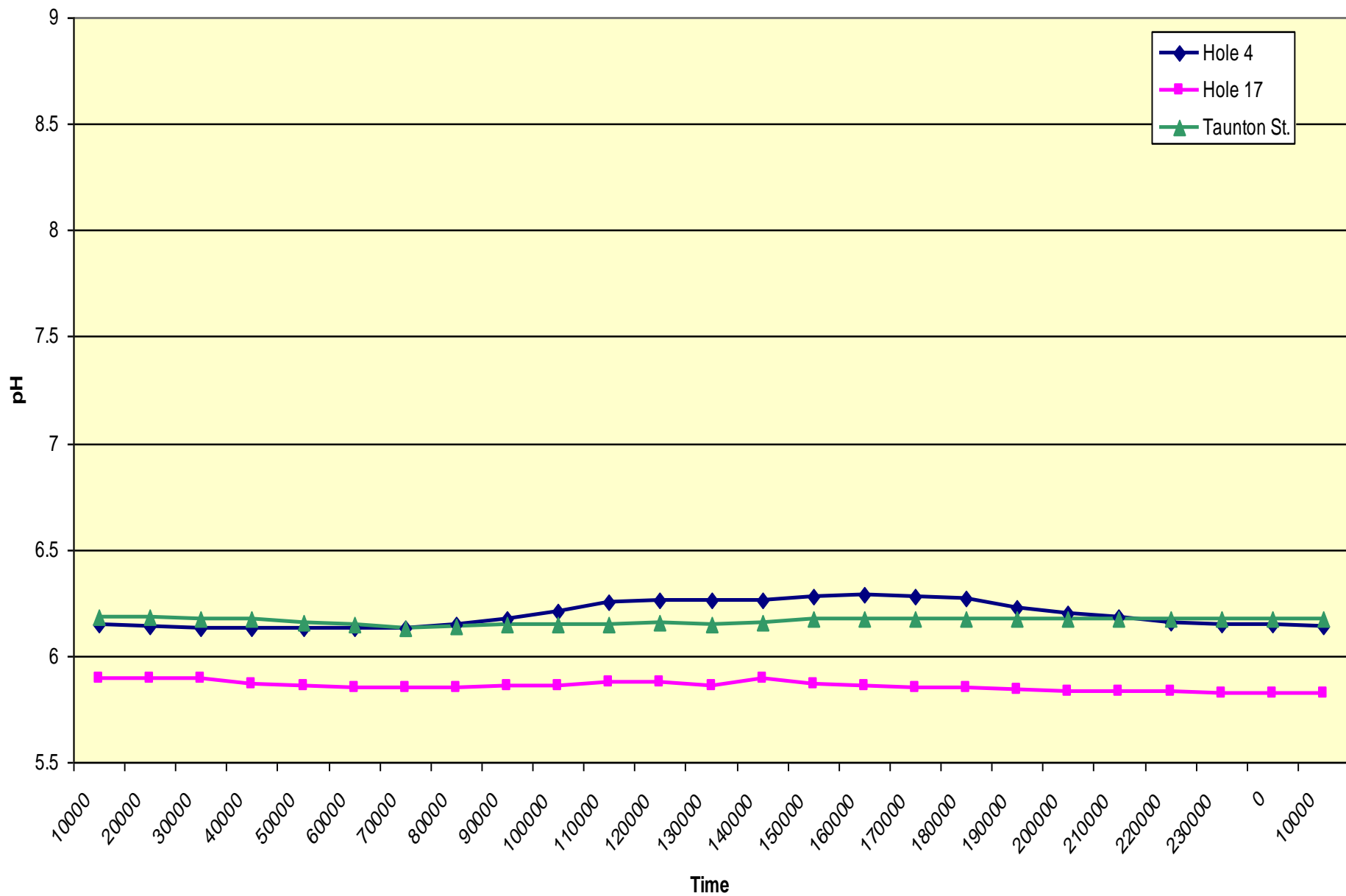


Temperature Vs. Time, Poquoy Brook, 04/03/08-04/04/08



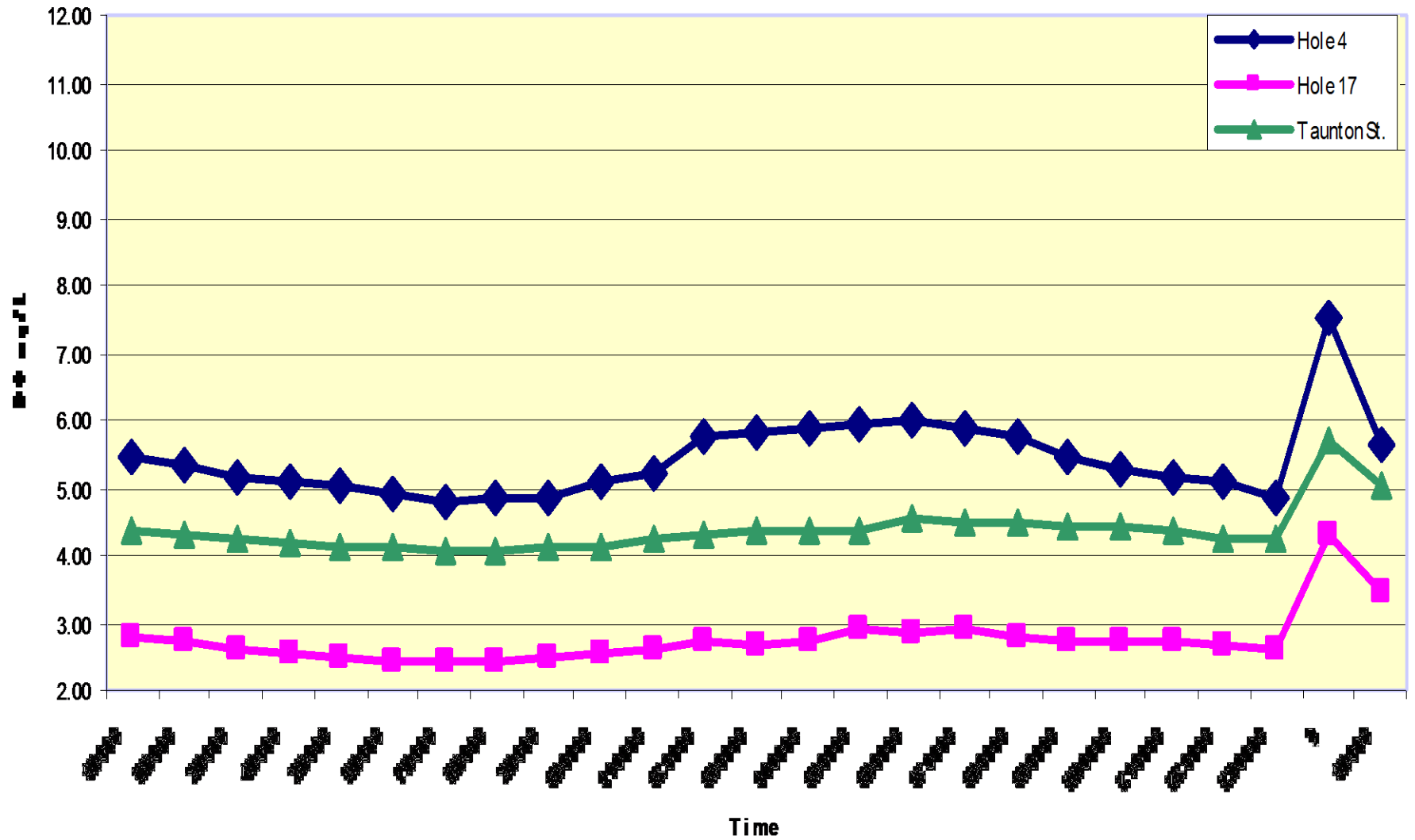


pH vs. Time, Poquoy Brook, 04/03/08-04/04/08

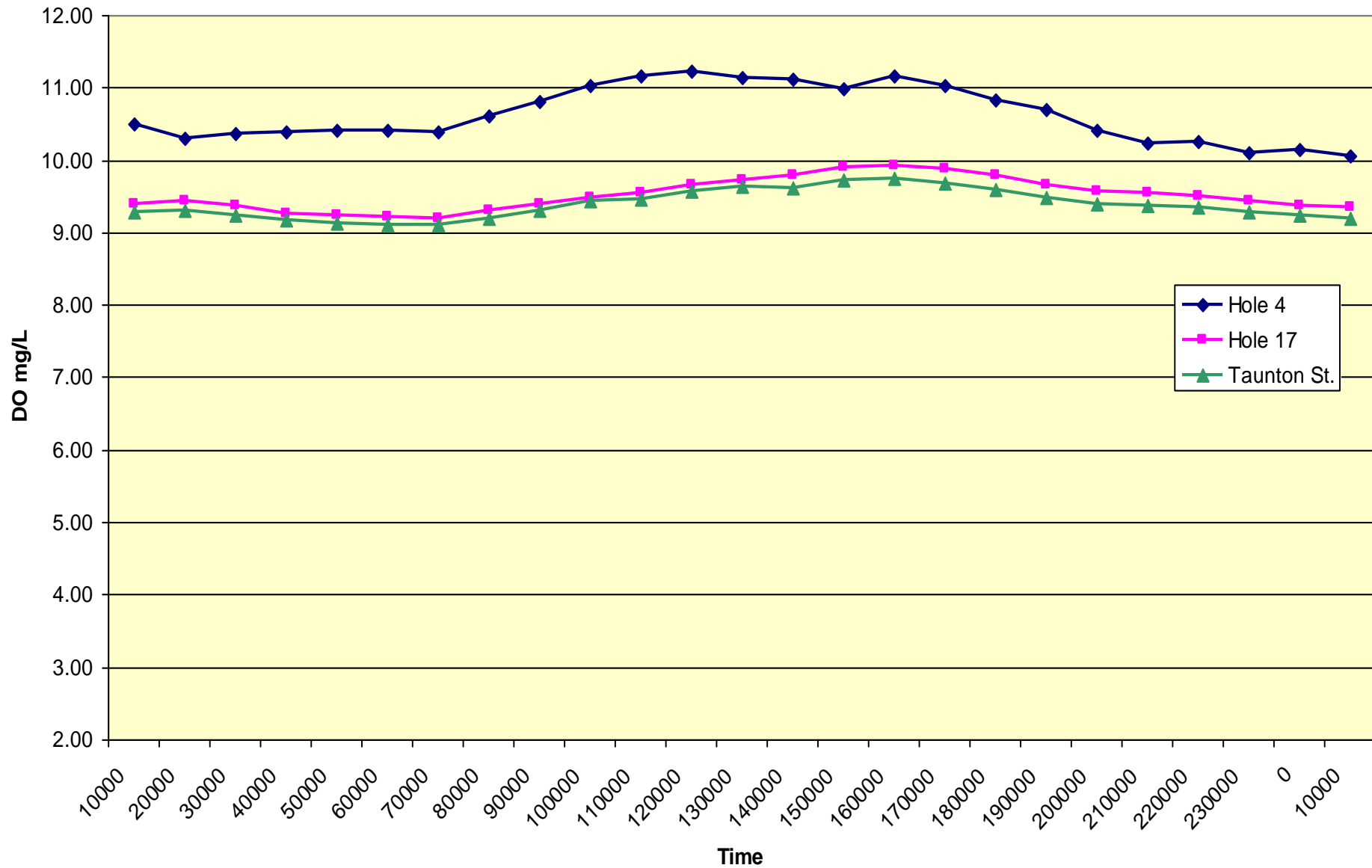




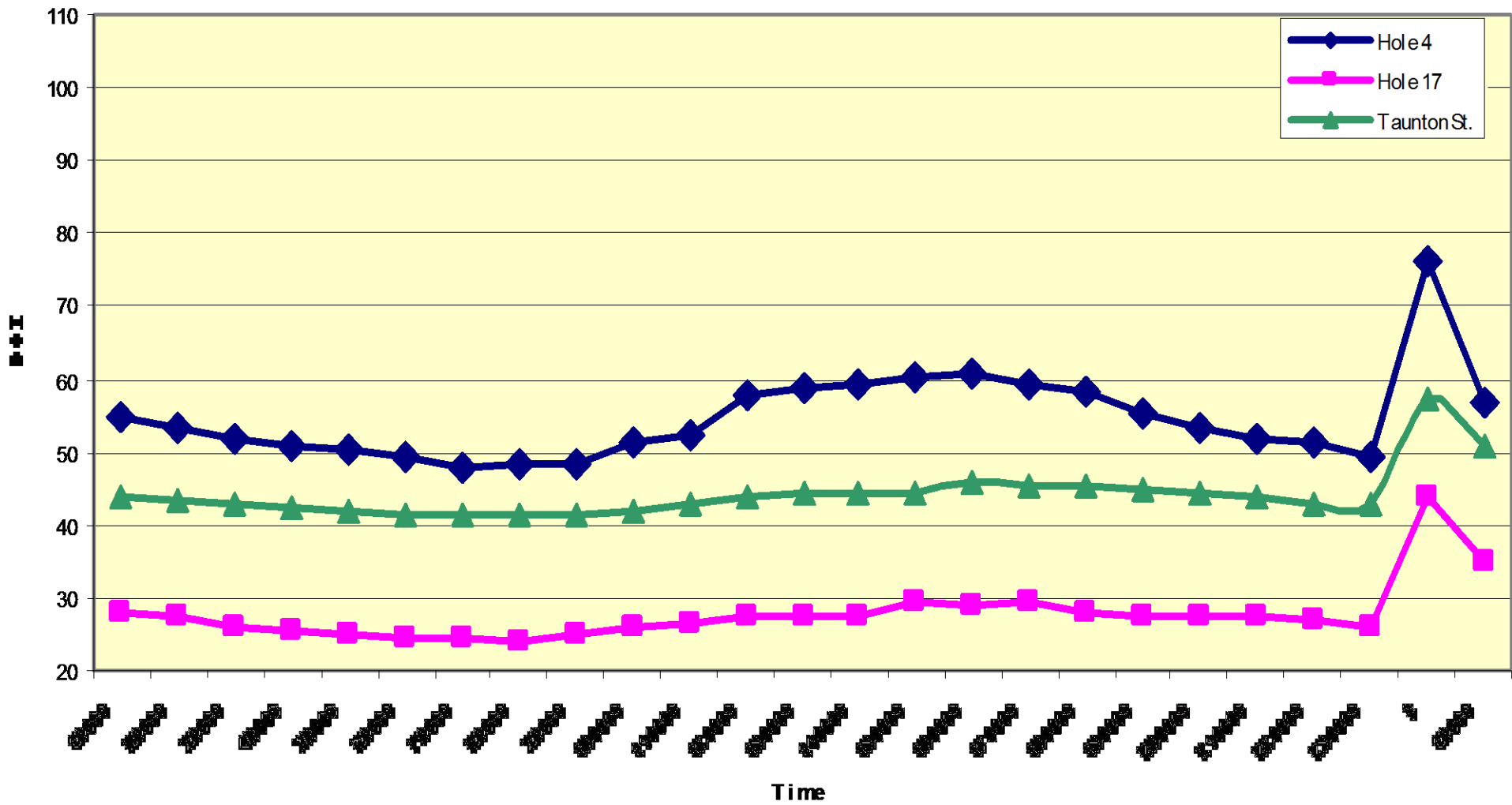
Dissolved Oxygen vs. Time, Poquoy Brook, 10/11/07-10/12/07



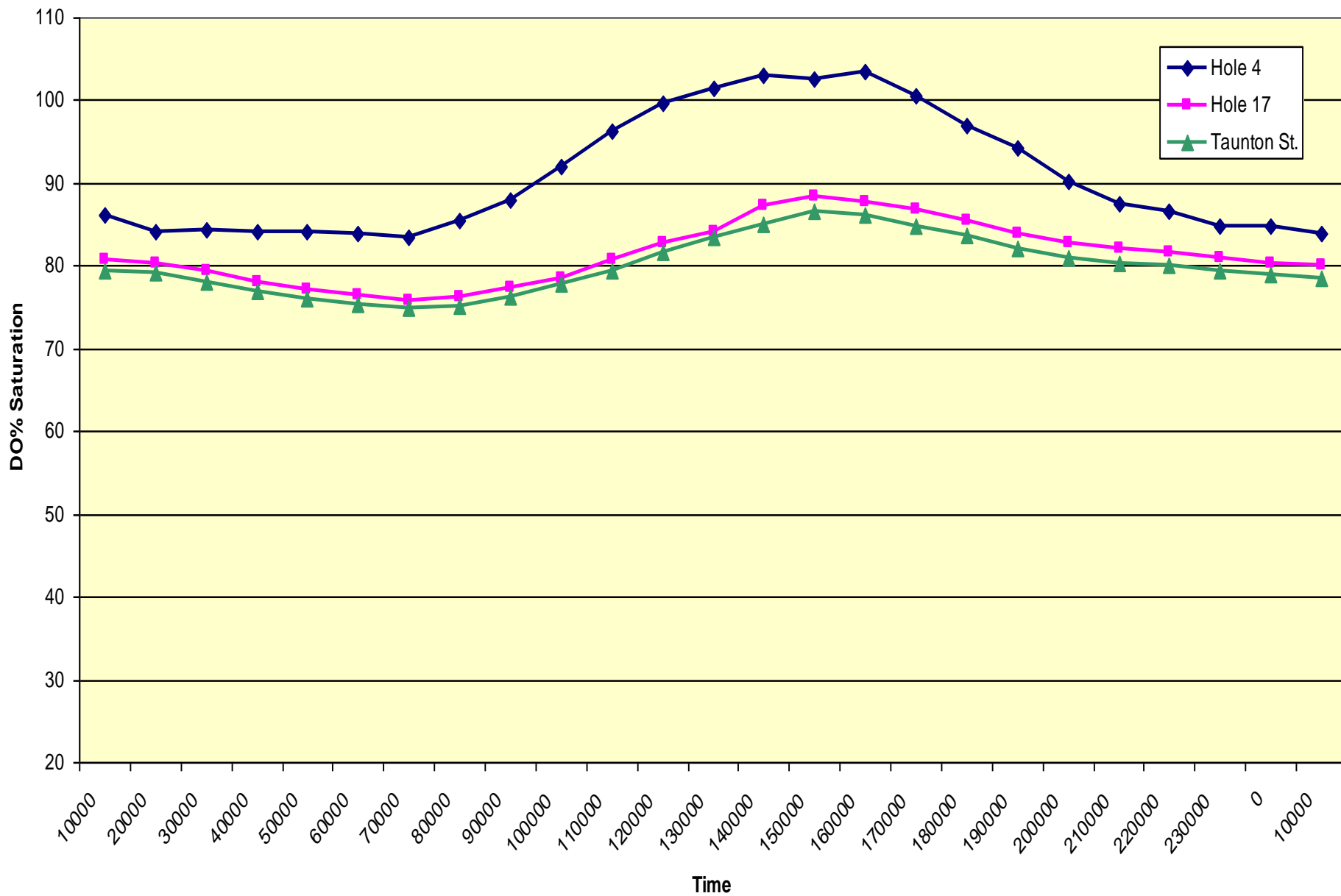
Dissolved Oxygen vs. Time, Poquoy Brook, 04/03/08-04/04/08



Dissolved Oxygen Percent Saturation vs. Time, Poquoy Brook, 10/11/07-10/12/07

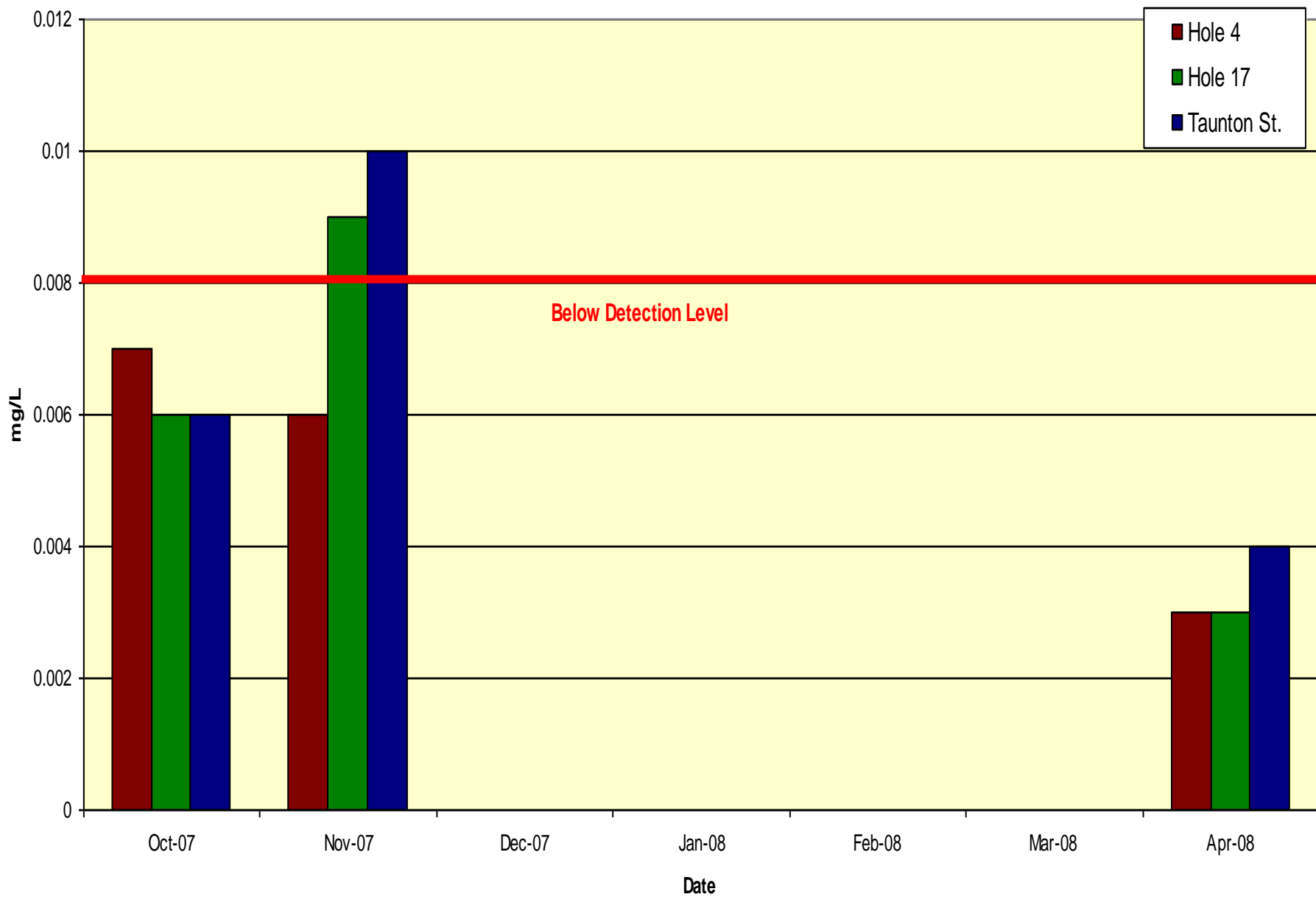


Dissolved Oxygen Saturation vs. Time, Poquoy Brook, 04/03/08-04/04/08

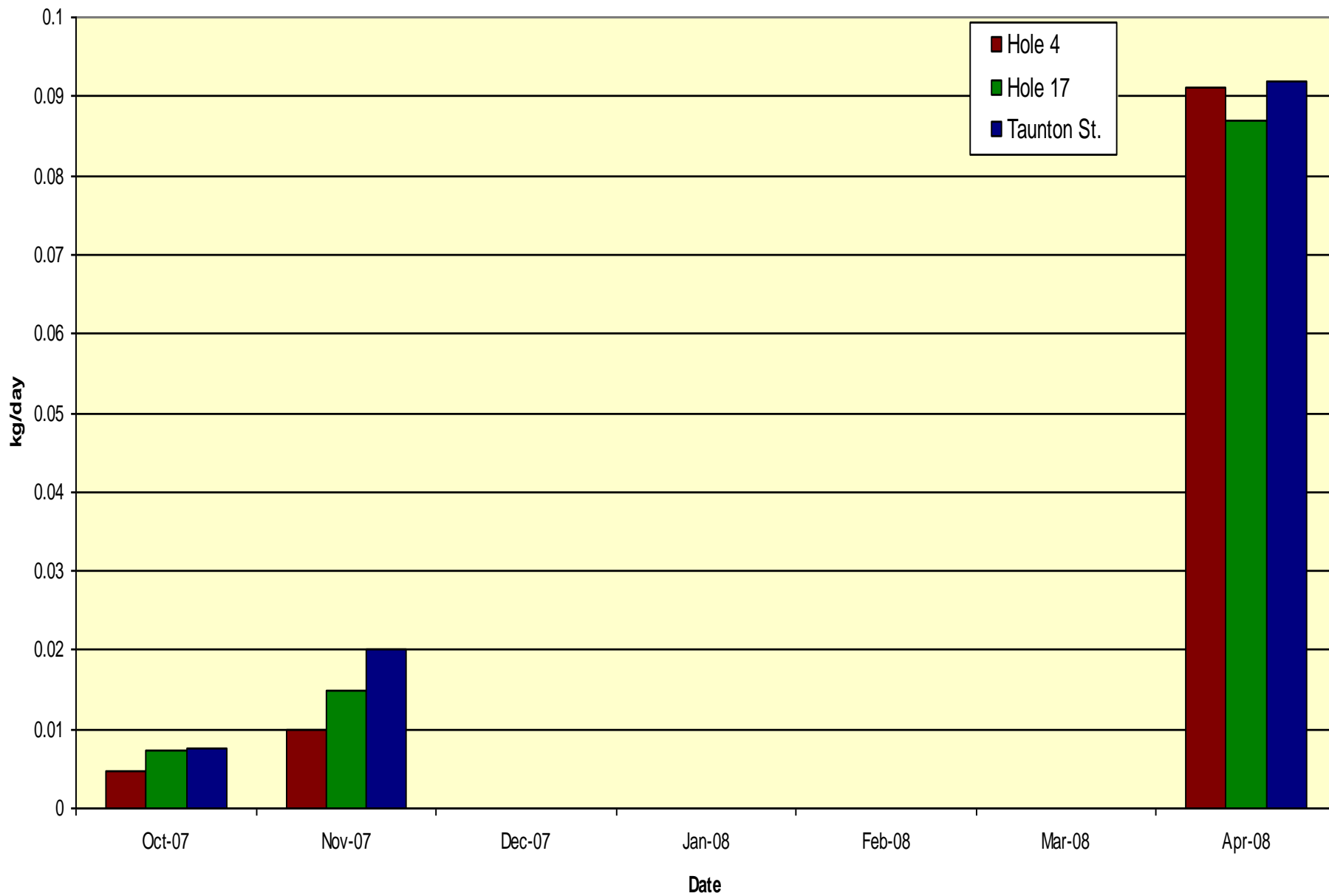




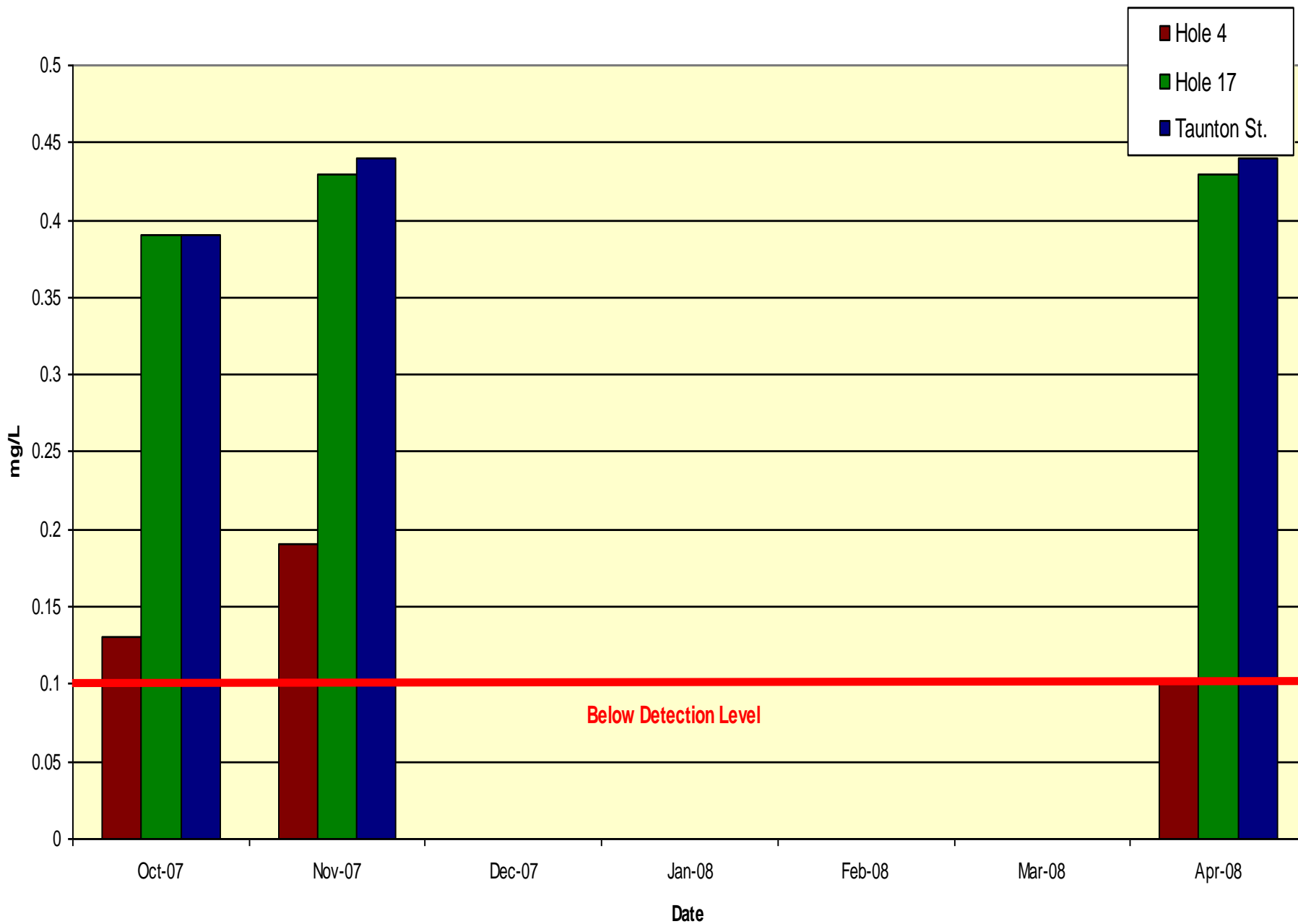
# Reactive Phosphorus, Poquoy Brook



# Load of Reactive Phosphorus, Poquoy Brook

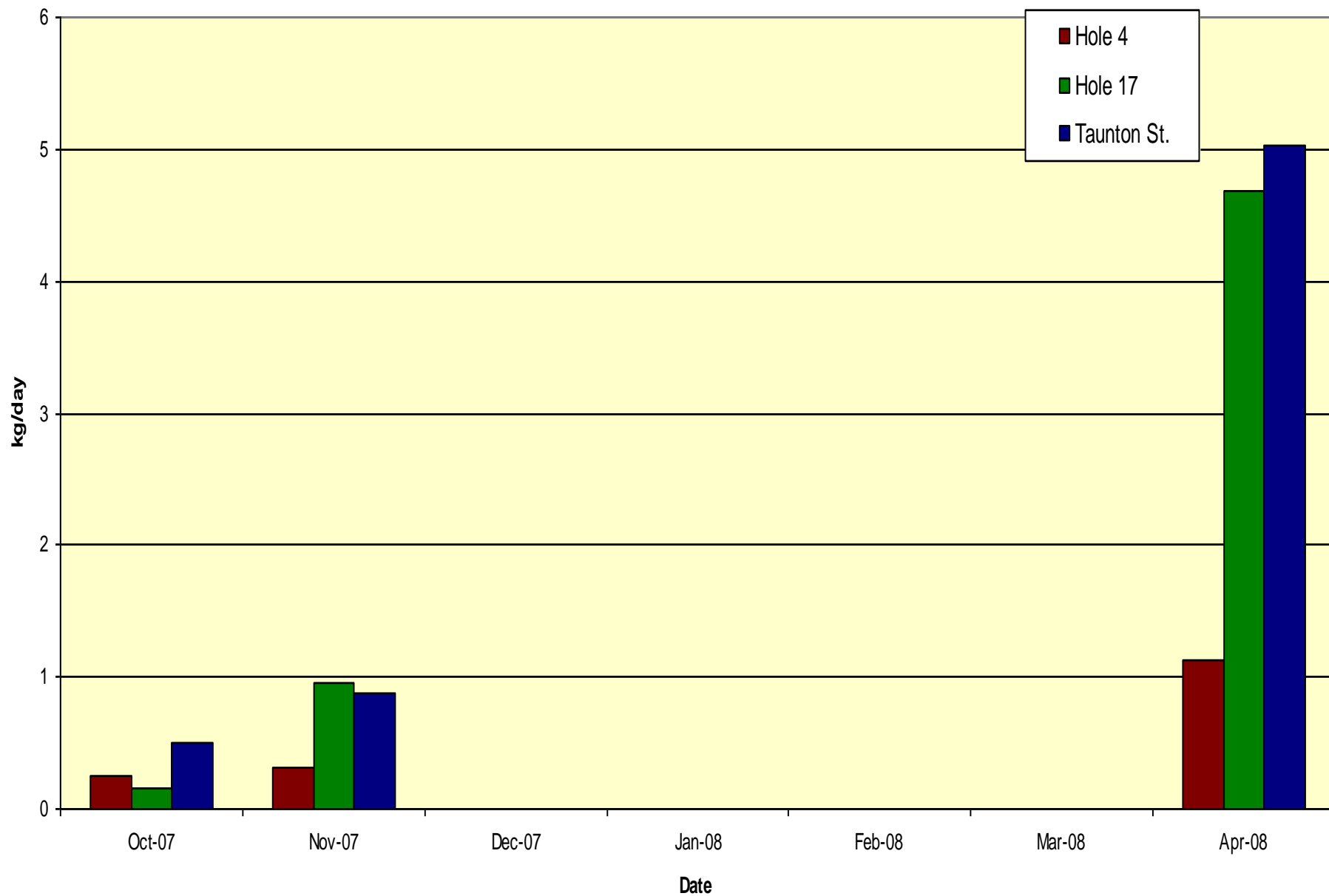


# Nitrogen as Nitrate (N/NO3), Poquoy Brook

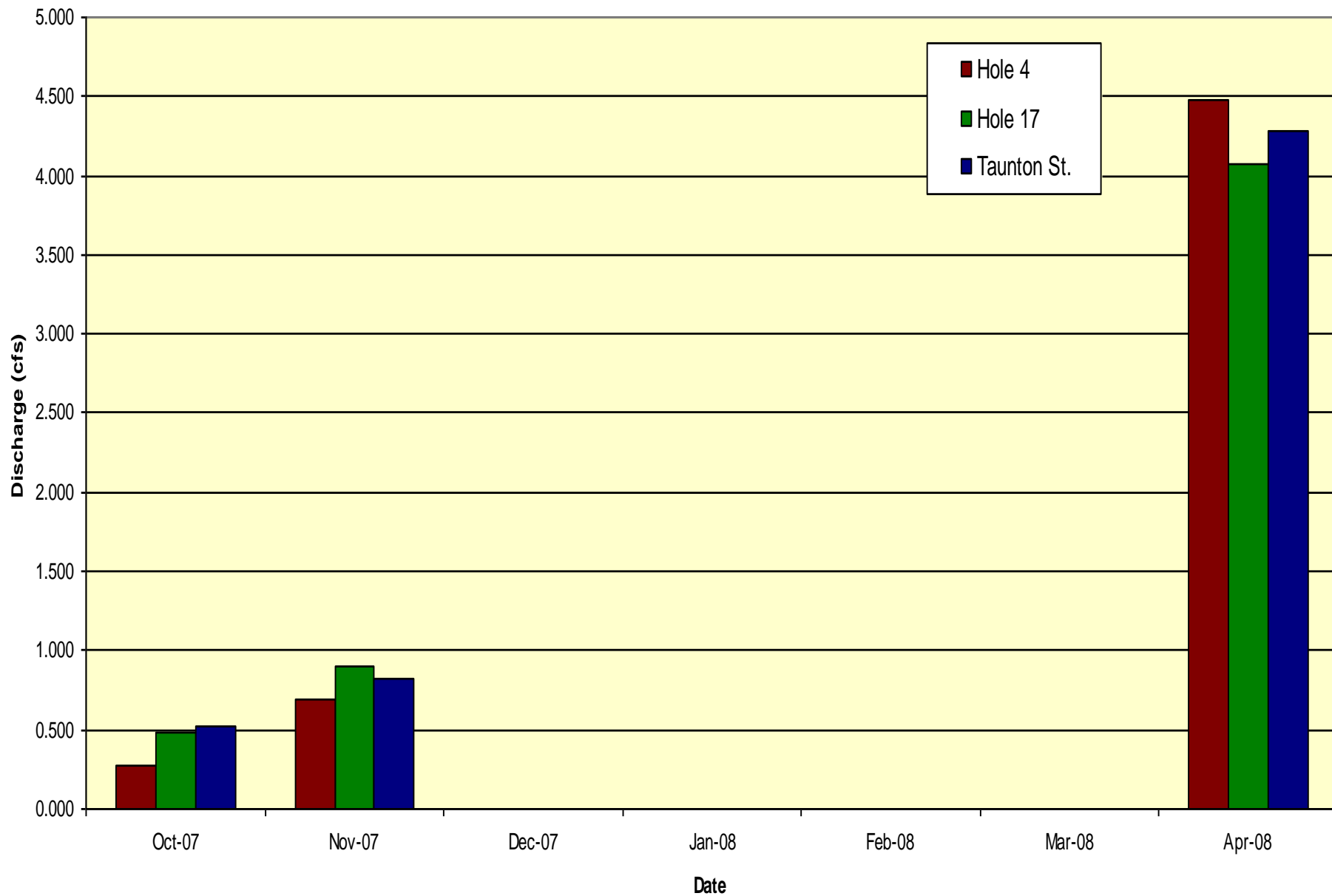




Load of Nitrogen as Nitrate (N/NO<sub>3</sub>), Poquoy Brook



# Discharge of Poquoy Brook



A scenic view of a golf course. In the foreground, there is a lush green lawn. A body of water, possibly a pond or a small lake, is visible in the middle ground, surrounded by tall grass and reeds. In the background, there are several large, mature trees with dense green foliage. The sky is bright and clear. The overall atmosphere is peaceful and natural.

# Macroinvertebrates



# Hole 4 Macro Invertebrates

<b>Hydropsychidae</b>	<b>66</b>	<b>Intolerant-18.80%</b>
<b>Chironomidae</b>	<b>1</b>	<b>Tolerant-80.91%</b>
<b>Amphipoda</b>	<b>129</b>	<b>FBI-7.88</b>
<b>Aselliade</b>	<b>128</b>	<b>Very Poor</b>
<b>Gastropoda</b>	<b>1</b>	
<b>Hirudinea</b>	<b>25</b>	
<b>Tubellaria</b>	<b>1</b>	



# Taunton St. Macro Invertebrates

Hydropsychidae	58
Chironomidae	8
Coenagrionidae	1
Elmidae	24
Amphipoda	37
Aselliade	21
Gastropoda	2
Pelecypoda	1
Oligochaeta	6
Hirudinea	31
Tubellaria	16

**Intolerant-28.29%**

**Tolerant-52.20%**

**FBI-6.2**

**Fairly Poor**





# Conclusion

We have concluded that the cranberry bogs on Southworth Street and the native geese have more of an impact on Poquoy Brook than Poquoy Brook Golf Course.

# Acknowledgements

## **Thank You to:**

Mrs. McNally

Poquoy Brook Golf Course

Mark Pendergast, Superintendent

Gary Cardoza, Head Golf Pro

Charles Dickow, Owner

The Dias Family

Dr. Curry

Kim McCoy

Dave Thomas, Chief Engineer of Middleboro Waste  
Treatment Plant



# Documentation

Behar, Sharon. Testing the Waters. 1st ed. 1997.

"Picture Gallery." Poquoy Brook Golf Course. 2008. 1-2-1 Marketing. 4 Apr 2008 <<http://www.poquoybrook.com/content/view/16/41/>>.

