SHELTER ISLAND WATER ADVISORY COMMITTEE –
February 2025, Height data report DRAFT

Summary/Conclusion - "Guarded"
The recent rainfall has not improved the aquifer levels. Only two wells are over their median level. The extended freezing temperatures and strong gale force winds may have impacted readings for the near shore wells.
No actions recommended at this time – continue to monitor levels.

Discussion:

Section 1a - National Drought Monitoring:
Shelter Island improved from D1 Moderate Drought to Abnormally Dry. Central Long Island changed to "None."

Section 1b – New York DEC Drought monitor.
The entire state is "Normal," which means drought is not in progress or anticipated.

Section 2 – Chart showing "ranking of monthly well heights by percentile of historic values." *The chart is a graphic of the data for the Big Four feeder wells showing the percentile rank for the current month versus history for each month.*
The Big Four continued to drop, with the Big 4 aquifer readings percentile average at 27%, the value in January was 47%.

Section 3 - Table of well readings compared to historic and median values.
"Well readings compared to the month's Median for each well."
Only two wells were above the February median value. This is occurring during the seasonal recharge months. However, some of the aquifer well readings may be lower than normal due to the extended gale winds around the measurement date. The extended freezing temperatures may also have an effect of readings.

Section 4 - "Comparison of the size of the change in current well readings compared to the historic Median change for that month." *Table showing the current month's change in well height from previous and comparison to change history.*
The gain/drop results follow typical patterns for February (Median and current values generally align as a gain or drop compared to history). The size of the gains (wells 5 to 9 - Congdon, Brander, Menantic, and Deer Park) are unusual.

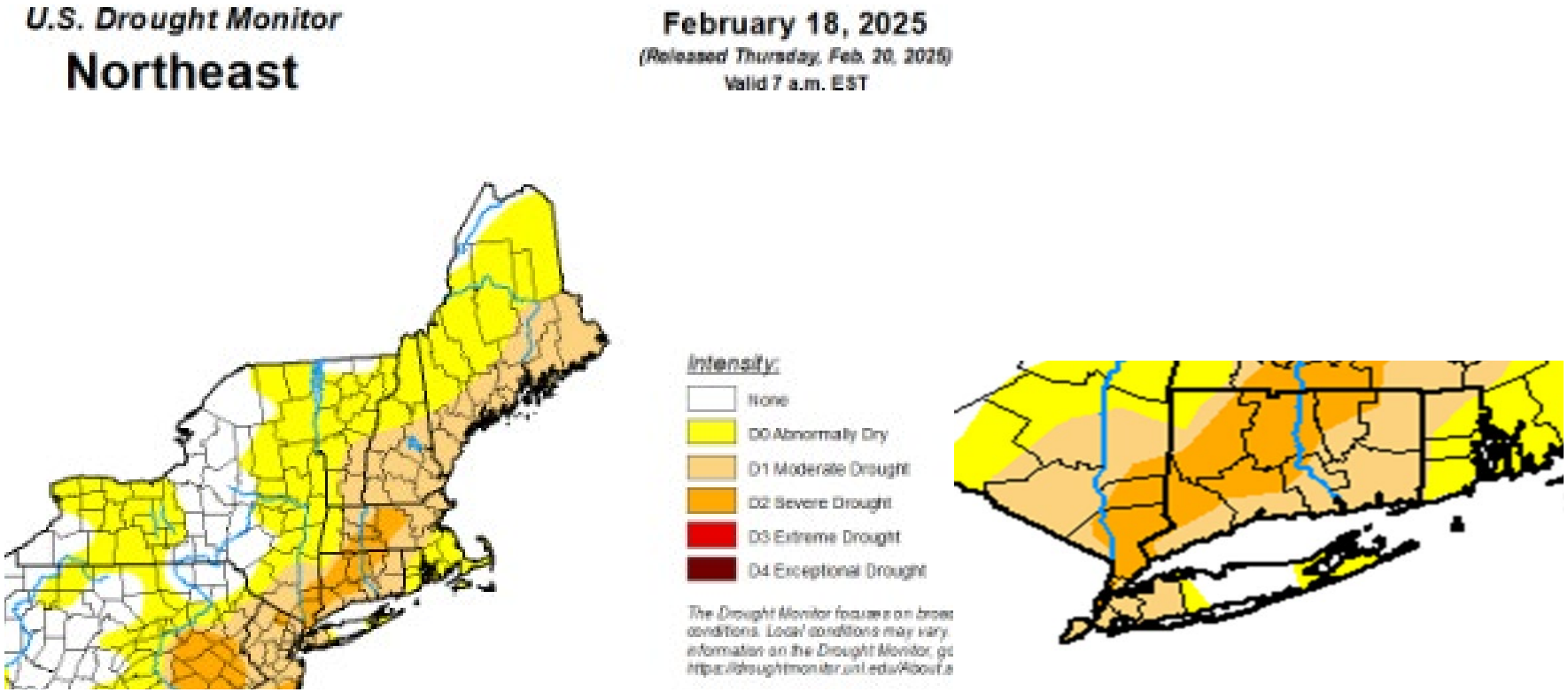
Section 5 – Raw well height readings for the Big 4 wells
Raw well height graph is independent of the median history. It presents a direct comparison of aquifer heights. While the rainfall pattern has improved, improvement in the normal seasonal recharge the aquifer levels do not reflect. The extended freezing temperatures and gale strength winds may be impacting the aquifer levels. With only two exceptions aquifer levels have dropped for 10 consecutive reading.

Current Rainfall versus history
Our YTD precipitation totals are a little low but nothing to worry about.

Precipitation Report for February 2025							
Year	2025	2024	2023	2022	2021	2020	2019
This Month	3.66"	2.14"	1.25"	4.11"	3.66"	3.59"	2.84"
Year to date	5.18"	10.07"	7.53"	8.06"	5.18"	5.71"	8.68"

Section 1a National Drought Monitoring

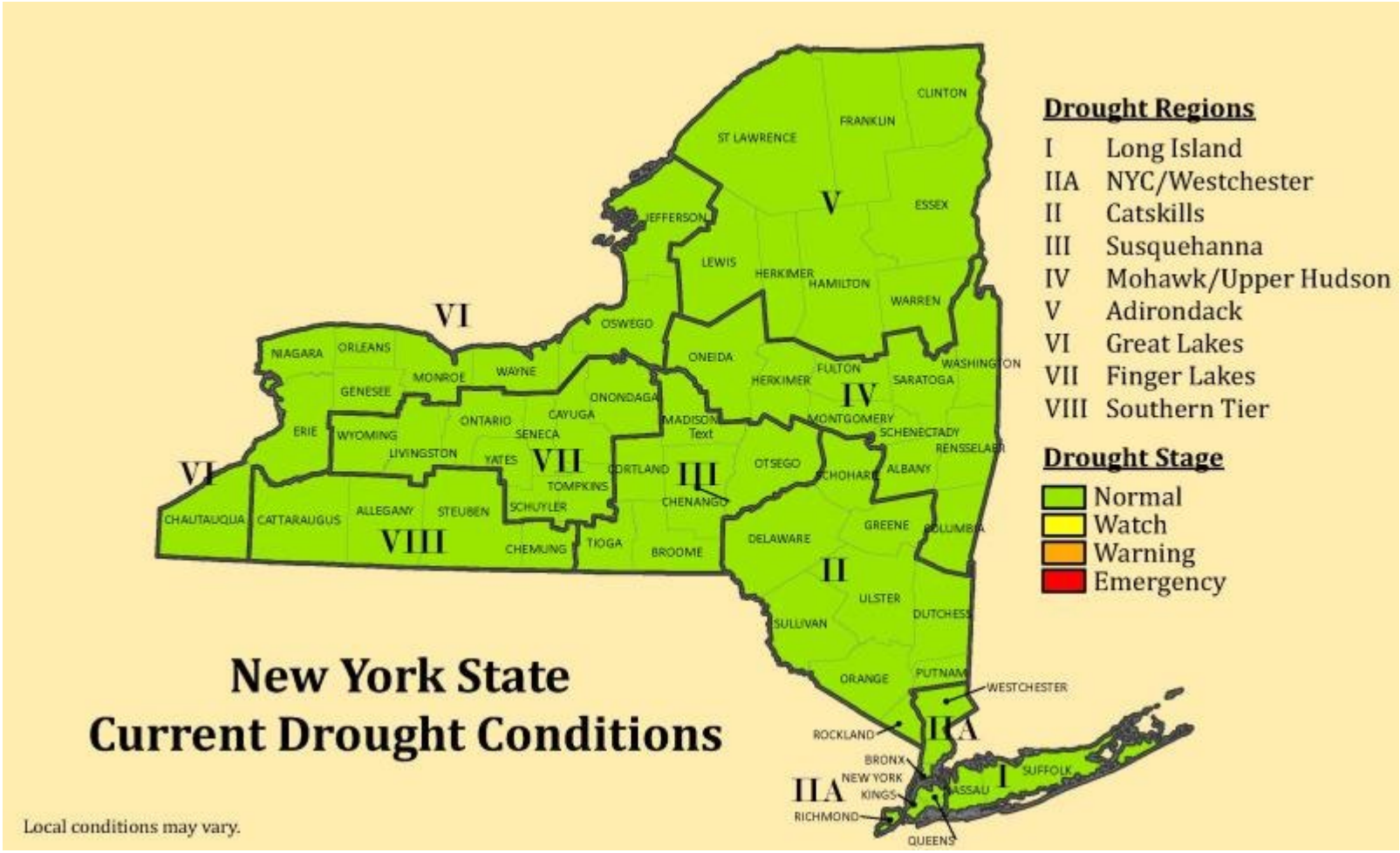
Shelter Island improved from D1 Moderate Drought to D0 Abnormally Dry. Central Long Island changed to “None.”



Close up- Both Forks and Shelter Island are Abnormally Dry. Central Sufolk “none”

Section 1b – New York DEC Drought monitor

This is the New York DEC version of Drought stage. The entire state is “Normal,” which means drought is not in progress or anticipated.



The Four Drought Stages and What They Mean

There are four stages of drought that can be declared in New York State. The Drought Plans describes the actions to be taken during each drought stage by water purveyors, towns and villages, water authorities, and other agencies with water supply responsibilities.

Normal
Drought not in progress and is not anticipated on the future.

Stage 1 Drought Watch
The least severe of the stages, a drought watch is declared when a drought is developing. Public water suppliers begin to conserve water and urge customers to reduce water use.

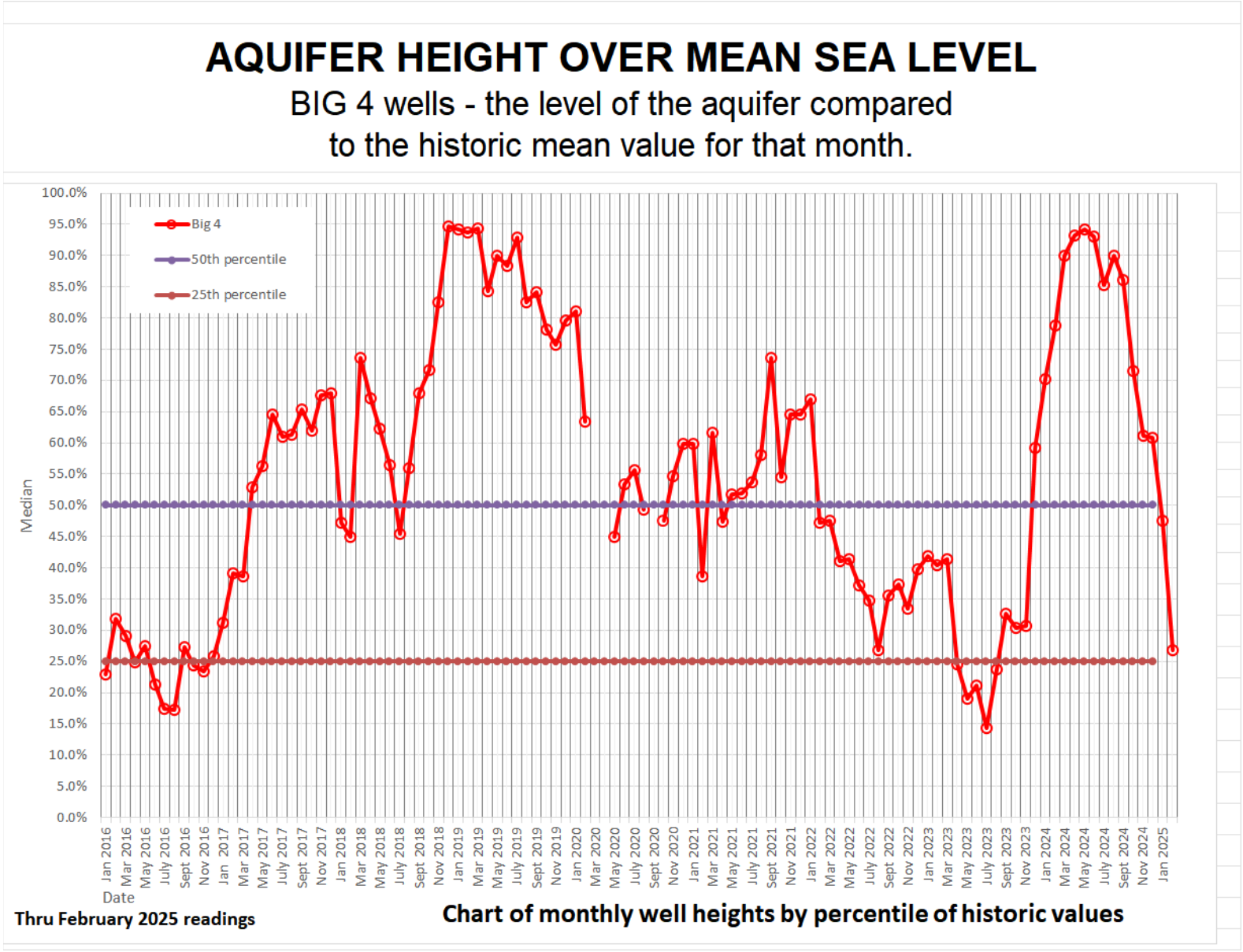
Stage 2 Drought Warning
Voluntary water conservation is intensified. Public water suppliers and industries update and implement local drought contingency plans. Local agencies make plans in case of emergency declaration.

Stage 3 Drought Emergency
The Disaster Preparedness Commission coordinates calling a drought emergency. Mandatory local/county water restrictions may be imposed. Communities may need to tap alternative water sources to avoid depleting water supplies, protect public health and provide for essential uses.

Stage 4 Drought Disaster
Disaster plans are implemented. Water use is further restricted. The Governor may declare disaster and request federal disaster assistance. Emergency legislation may be enacted. The state provides equipment and technical assistance to communities.

Section 2. Ranking of monthly well heights by percentile of historic values.

The Big Four continued to drop, with the Big 4 aquifer readings percentile average at 27%, the value in January was 47%.



Section 3 – Comparison showing aquifer height readings for the month compared to the median history

Only two wells were above the February median value. This is occurring during the seasonal recharge months. However, some of the aquifer well readings may be lower than normal due to the extended gale winds around the measurement date. The extended freezing temperatures may also have an effect of readings.

Well readings compared to the the months Median for each well for:	Manhansett, Well #1 Big 4	Rocky Point Ave/Belvedere Well #2	Big Ram Island Well #3	Manwaring Rd Well #4 Big 4	Congdon Well #5 Big 4	Brander/Lilliput Well #6	Menantic Rd Well #7	Deer Park Lane Well #8	LITTLE RAM Well #9	DERING HARBOR Well #10	HAY BEACH Well #11	Goat Hill Well #12 Big 4	SHOREWOOD Well #13	White Birch Well #14	
February 18 2025	21	19	21	21	27	23	23	23	15	15	18	23	22	11	Total # of Values
Median Value	**2.96**	**1.69**	**1.17**	**3.95**	**5.43**	**2.07**	**1.67**	**3.31**	**0.99**	**1.64**	**2.13**	**6.22**	**1.43**	**1.38**	Median Values
This Month	2.38	1.49	0.77	3.35	4.93	2.10	1.91	3.25	0.07	1.47	1.92	6.10	1.27	1.36	
Prev. Reading (Jan)	2.44	1.5	1.16	3.4	4.58	1.69	1.48	2.79	0.91	1.43	1.87	6.23	1.05	1.12	
Change from prior reading	(0.06)	(0.01)	(0.39)	(0.05)	0.35	0.41	0.43	0.46	(0.84)	0.04	0.05	(0.13)	0.22	0.24	
	Big 4			Big 4	Big 4							Big 4			
					7.78										
					7.75										
				6.18	6.94	2.96	2.63	7.28				8.19			
			2.17	5.93	6.89	2.64	2.14	4.53				7.88	2.33		
	4.55		1.87	5.19	6.82	2.54	2.06	4.51				7.77	2		
	4.51	2.68	1.84	5.09	6.65	2.38	1.97	4.38			2.97	7.38	1.89		
	3.89	2.43	1.6	4.91	6.56	2.35	**1.91**	4.08	2.22	2.59	2.97	7.07	1.88		
	3.87	2.4	1.46	4.66	6.37	2.34	1.86	3.51	1.38	2.25	2.88	7.04	1.73		
	3.82	2.25	1.39	4.35	6.14	2.34	1.77	3.5	1.33	2.2	2.56	6.83	1.72		
	3.59	2.23	1.38	4.32	5.8	2.21	1.77	3.5	1.29	2	2.5	6.68	1.63	1.8	
	3.57	2.21	1.38	4.29	5.79	2.16	1.76	3.47	1.28	1.84	2.47	6.65	1.55	1.54	
	3.53	1.99	1.34	4.28	5.77	2.13	1.76	3.39	1.23	1.77	2.33	6.56	1.51	1.54	
	3.47	1.96	1.23	3.98	5.67	**2.10**	1.75	3.37	1.11	1.76	2.21	6.49	1.45	1.48	
	3.22	1.92	1.19	3.91	5.54	2.08	1.68	3.34	1.01	1.7	2.14	**6.22**	1.44	1.46	
Median Value	**2.96**	**1.69**									**2.13**	**6.22**	**1.42**	**1.38**	
	2.95	1.67	1.15	3.82	5.32	2.06	1.65	3.27	0.97	1.57	1.97	6.16	1.4	**1.36**	
	2.92	1.67	1.12	3.79	5.25	1.96	1.63	**3.25**	0.96	1.55	1.93	6.14	1.33	1.34	
	2.73	1.61	1.12	3.67	5.23	1.95	1.56	3.22	0.91	1.52	**1.92**	**6.10**	1.3	1.16	
	2.69	1.54	1.07	**3.35**	4.98	1.93	1.53	3.14	0.89	**1.47**	1.91	6.06	1.27	1.12	
	2.47	1.49	1.06	3.26	**4.93**	1.84	1.51	3.07	0.84	1.42	1.82	5.97	**1.27**	1.11	
	2.38	**1.49**	1.04	3.19	4.91	1.82	1.49	3	0.16	1.39	1.77	5.73	1.15		
	2.33	1.44	1.03	3.06	4.79	1.77	1.33	2.93	**0.07**	1.39	1.71	5.7	1.13		
	2.15	1.42	1.03	2.92	4.68	1.75	1.32	2.89			1.68	5.65	1.11		
	2.12	1.42	**0.77**	2.57	4.54	1.56	1.3	2.86				5.62	1.11		
	1.83		0.62		4.2	1.27	1.22	2.77				5.47	0.95		
					3.76	1.24	1.04	2.18							
					3.67										
					3.48										
	Big 4			Big 4	Big 4							Big 4			
CURRENT MONTH ANALYSIS															Big 4 wells
percentrank current read to historic range	20%	17%	5%	25%	31%	55%	82%	41%	0%	21%	29%	32%	24%	40%	27%

Section 4 - "Comparison of the size of the change in current well readings compared to the historic Median change for that month."

Table showing the current month's change in well height from previous and comparison to change history.

The gain/drop results follow typical patterns for February (Median and current values generally align as a gain or drop compared to history). The size of the gains (wells 5 to 9 - Congdon, Brander, Menantic, and Deer Park) are unusual.

February 2025 SIZE OF CHANGE FROM PREVIOUS MONTH

	Manhansett, Well #1	Rocky Point Ave/Belvedere Well #2	Big Ram Island Well #3	Manwaring Rd Well #4	Congdon Well #5	Brander/ Liliput Well #6	Menantic Rd Well #7	Deer Park Lane Well #8	Little Ram Well #9	Dering Harbor Well #10	Hay Beach Well #11	Goat Hill Well #12	Shorewood Well #13	White Birch Well #14
Well #	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Change v previous	(0.06)	(0.01)	(0.39)	(0.05)	0.35	0.41	0.43	0.46	(0.84)	0.04	0.05	(0.13)	0.22	0.24
Med Change	**0.16**	**(0.01)**	**(0.07)**	**0.15**	**0.41**	**0.03**	**0.06**	**0.16**	**(0.07)**	**(0.07)**	**0.04**	**0.23**	**0.02**	**0.01**
	Big 4			Big 4	Big 4							Big 4		
			0.60		0.87	0.61	2.06					1.06	0.42	
	0.89	0.35	0.45	1.01	0.83	0.47	0.87	3.17				0.74	0.36	
	0.54	0.35	0.38	1.01	0.62	**0.41**	0.55	0.56				0.51	0.32	
	0.45	0.34	0.27	0.76	0.59	0.25	0.46	0.46	0.76	0.38	0.41	0.50	0.30	
	0.44	0.22	0.24	0.55	0.54	0.23	**0.43**	**0.46**	0.26	0.35	0.29	0.37	0.25	
	0.35	0.16	0.19	0.47	0.54	0.23	0.36	0.39	0.23	0.17	0.29	0.35	**0.22**	
	0.33	0.14	0.12	0.37	0.49	0.16	0.29	0.32	0.17	0.10	0.21	0.30	0.16	**0.24**
	0.27	0.14	0.10	0.35	0.47	0.15	0.28	0.28	0.14	0.09	0.11	0.30	0.15	0.07
	0.26	0.12	0.01	0.31	0.45	0.13	0.15	0.27	0.00	**0.04**	0.09	0.28	0.14	0.07
	0.22	0.00	(0.03)	0.27	0.44	0.08	0.08	0.24	(0.05)	(0.05)	0.08	0.27	0.07	0.09
	0.19	0.00	(0.05)	**0.15**	**0.41**	**0.03**	**0.02**	0.19	(0.05)	**(0.07)**	**0.05**	0.25	**0.02**	0.03
MEDIAN	**0.16**	**(0.01)**	**(0.07)**	**0.15**	**0.41**	**0.03**	**0.07**	**0.16**		**(0.07)**	**0.04**	**0.23**	**0.02**	**0.01**
	0.12	(0.07)	(0.09)	0.14	0.40	0.00	0.05	0.14	(0.08)	(0.12)	0.03	0.21	(0.05)	0.00
	0.12	(0.07)	(0.18)	0.14	0.37	**(0.03)**	(0.05)	0.11	(0.09)	(0.16)	0.01	0.17	(0.10)	0.01
	0.09	(0.11)	(0.22)	0.11	**0.35**	(0.04)	(0.09)	0.07	(0.45)	(0.27)	(0.05)	0.17	(0.11)	(0.01)
	0.05	(0.12)	(0.27)	0.10	0.29	(0.08)	(0.16)	0.03	(0.57)	(0.30)	(0.06)	0.14	(0.13)	(0.01)
	0.02	(0.19)	(0.31)	0.08	0.26	(0.20)	(0.17)	0.02	(0.65)	(0.36)	(0.10)	0.11	(0.15)	(0.04)
	0.00	(0.23)	(0.31)	0.05	0.21	(0.23)	(0.21)	0.02	**(0.84)**	(0.39)	(0.14)	0.09	(0.18)	
	(0.01)	(0.24)	**(0.39)**	**(0.05)**	0.13	(0.26)	(0.22)	0.02	(1.23)	(0.78)	(0.16)	0.09	(0.19)	
	(0.05)	(0.34)	(0.44)	(0.11)	0.09	(0.59)	(0.42)	0.00	(1.32)		(0.21)	0.06	(0.37)	
	(0.06)	(1.25)	(0.51)	(0.12)	(0.03)	(0.61)	(0.53)	(0.20)				0.05	(0.40)	
	(0.15)		(0.66)		(0.07)	(0.72)	(0.65)	(0.29)				(0.04)	(0.58)	
			(0.79)		(0.41)							**(0.13)**		
	Big 4			Big 4	Big 4							Big 4		
percentrank current read to historic change	**5%**	**47%**	**18%**	**11%**	**36%**	**90%**	**81%**	**85%**	**13%**	**67%**	**56%**	**0%**	**76%**	**100%**

Section 5 - "Raw" aquifer readings for the Big 4 wells.

Raw well height graph is independent of the median history. It presents a direct comparison of aquifer heights.

At the halfway mark, the normal seasonal recharge has not yet started. With only two exceptions aquifer levels have dropped for 10 consecutive readings.