

**SHELTER ISLAND WATER ADVISORY COMMITTEE –
APRIL 2024, Height data report DRAFT**

Summary/Conclusion - “Guarded”

The aquifer has received a significant recharge, the WAC recommends that Islanders may now follow normal *voluntary water conservation measures*.

Discussion:

Section 1A and 1B - National Drought Monitoring and Outlook Forecasting:

Shelter Island is currently not in and is not forecast to return to drought conditions.

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.*

Aquifer levels are near historic highs – in general only the 2010 flooding event had higher levels. See the last page of this report for a table illustrating our current aquifer levels compared to the 2010 flooding event.

Section 3 - Table of well readings compared to historic and median values.

Table “Well readings compared to the month’s Median for each well.” Current month readings compared to the month history for each well in the month. All thirteen wells are well above their Median values for March, even with the relatively low precipitation in February.

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.*

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. A very strong recharge continues!

Rainfall Status: Ken Reports:

Our YTD April precipitation of 22.7" is above the past 6-year average of 15.145". This is a great way to start our spring/summer season.

Precipitation Report – April 2024						
Year	2024	2023	2022	2021	2020	2019
This Month	4.33	3.5	3.52	3.94	3.61	5.61
Year to date	22.7	15.18	14.71	13.29	13.23	13.525

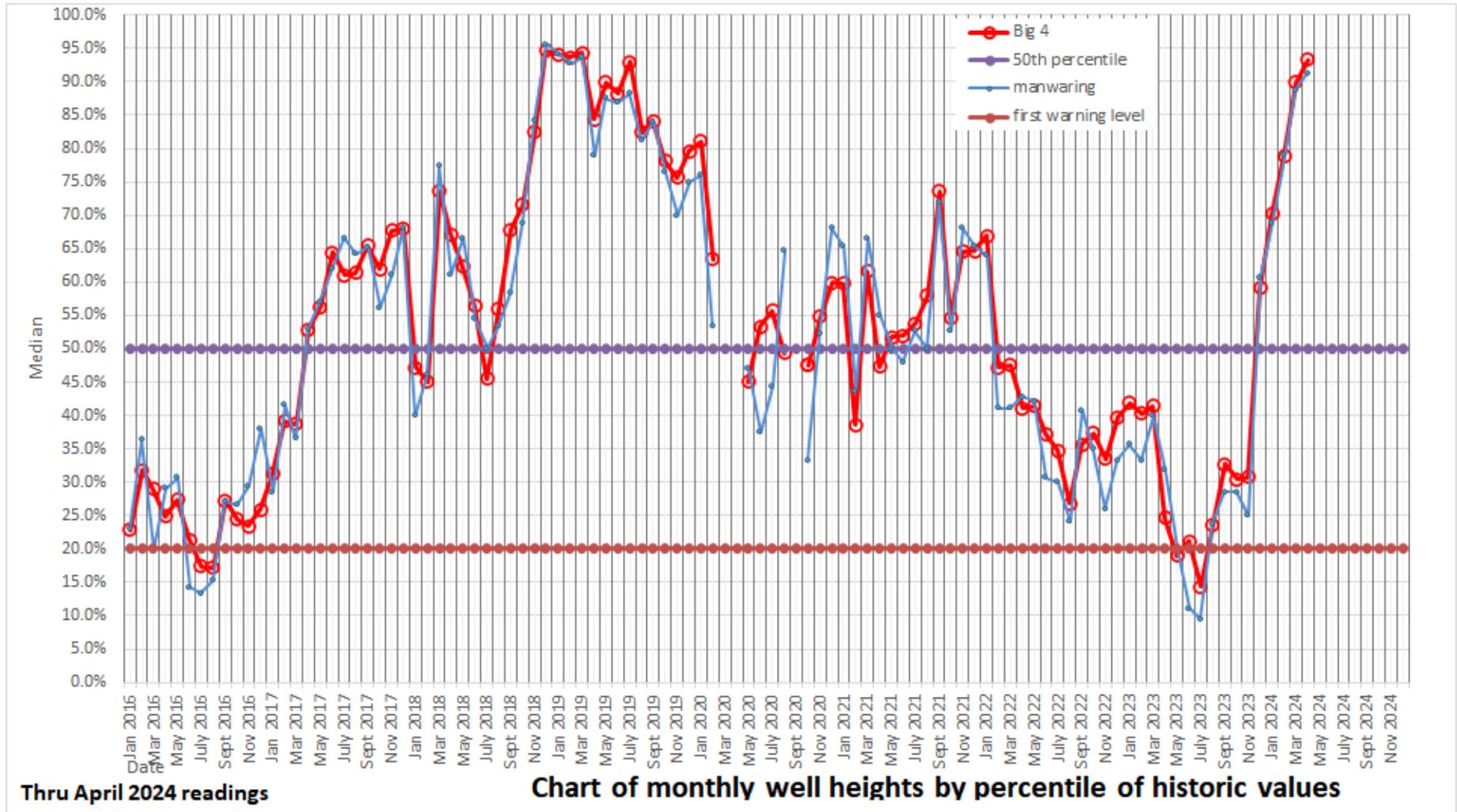
Shelter Island Water Advisory Committee issue date May 2, 2024.

Section 1 National Drought Monitoring

The regional drought monitoring and forecast for Shelter Island is we are currently not in and not forecast to return to drought conditions. The only dry area near Long Island is southern and central New Jersey.

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

The influence of the heavy rainfall events continues.



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

A very strong recharge continues. Values above the current ones are generally from the flooding rainfall in 2010.

Well readings compared to the months Median for each well for:	Manhansett, Well #1	Rocky Point Ave/Belvedere Well #2	Big Ram Island Well #3	Manwaring Rd Well #4	Congdon Well #5	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	SHOREWOOD Well #13
April 29 2024	25	23	21	25	29	24	22	24	11	14	19	22	20
Median Value	3.47	2.07	1.45	4.68	6.31	2.32	1.93	3.97	1.29	1.99	2.57	6.96	1.70
Reading April 12 2023	5.37	2.90	1.96	6.76	8.24	3.06	2.49	5.03	1.67	2.63	3.79	8.09	2.41
Prior Month	4.45	2.68	1.98	5.62	7.5	3.13	2.44	5.58	1.9	2.51	3.31	7.37	2.37
Change from prev. month	0.92	0.22	(0.02)	1.14	0.74	(0.07)	0.05	(0.55)	(0.23)	0.12	0.48	0.72	0.04
	Big 4			Big 4	Big 4							Big 4	
					10.22								
					8.24								
	7.05			8.88	7.96	3.56							
	5.37	3.61		6.86	7.67	3.06	2.73	6.26					
	5.22	2.90	1.96	6.76	7.37	2.86	2.49	5.03				10.12	
	4.56	2.77	1.91	6.08	7.33	2.84	2.44	4.74			5.65	8.16	2.80
	4.38	2.56	1.81	6.04	7.05	2.78	2.32	4.72			3.79	8.09	2.41
	4.36	2.45	1.77	5.97	6.97	2.77	2.24	4.66		3.60	3.24	7.98	2.37
	4.28	2.42	1.72	5.75	6.86	2.68	2.24	4.45		2.63	2.99	7.85	2.12
	4.26	2.37	1.63	5.45	6.67	2.60	2.01	4.43	1.78	2.46	2.88	7.39	2.07
	3.95	2.28	1.57	5.32	6.60	2.49	1.99	4.26	1.67	2.22	2.87	7.24	1.92
	3.75	2.23	1.49	5.22	6.54	2.47	1.97	4.12	1.61	2.10	2.62	7.09	1.77
	3.71	2.09	1.46	5.03	6.35	2.40	1.96	4.09	1.51	2.00	2.58	7.03	1.73
	3.48	2.08	1.45	4.79	6.34	2.33	1.96	4.04	1.33	2.00	2.58	6.98	1.71
MEDIAN		2.07	1.45					3.97	1.29		2.57	6.96	1.70
	3.45	2.06	1.44	4.57	6.27	2.30	1.90	3.96	1.21	1.97	2.47	6.88	1.69
	3.45	2.05	1.42	4.46	6.07	2.28	1.88	3.72	1.11	1.95	2.47	6.73	1.68
	3.39	2.02	1.40	4.42	5.97	2.26	1.87	3.66	0.99	1.94	2.46	6.71	1.68
	3.31	1.95	1.35	4.37	5.90	2.24	1.86	3.61	0.96	1.93	2.29	6.66	1.63
	3.22	1.94	1.30	4.07	5.82	2.22	1.72	3.57	0.74	1.79	2.28	6.65	1.62
	2.99	1.93	1.25	4.05	5.67	2.15	1.71	3.57		1.74	2.24	6.61	1.57
	2.98	1.90	1.24	3.98	5.59	2.14	1.59	3.53		1.69	2.24	6.42	1.49
	2.98	1.88	1.22	3.92	5.55	2.07	1.36	3.50			2.22	6.26	1.43
	2.91	1.84	1.06	3.83	5.46	1.78	1.34	3.45			2.18	5.78	1.31
	2.77	1.65	1.02	3.74	5.41	1.75	1.18	3.20				5.00	0.94
	2.69	1.30		3.50	5.17	1.26	1.00	3.05					
	1.81			2.57	4.97	0.86		2.42					
					4.62								
					3.94								
	Big 4			Big 4	Big 4							Big 4	
CURRENT MONTH ANALYSIS													
percentrank current read to historic range	96%	95%	100%	91%	96%	96%	95%	96%	90%	92%	94%	90%	95%

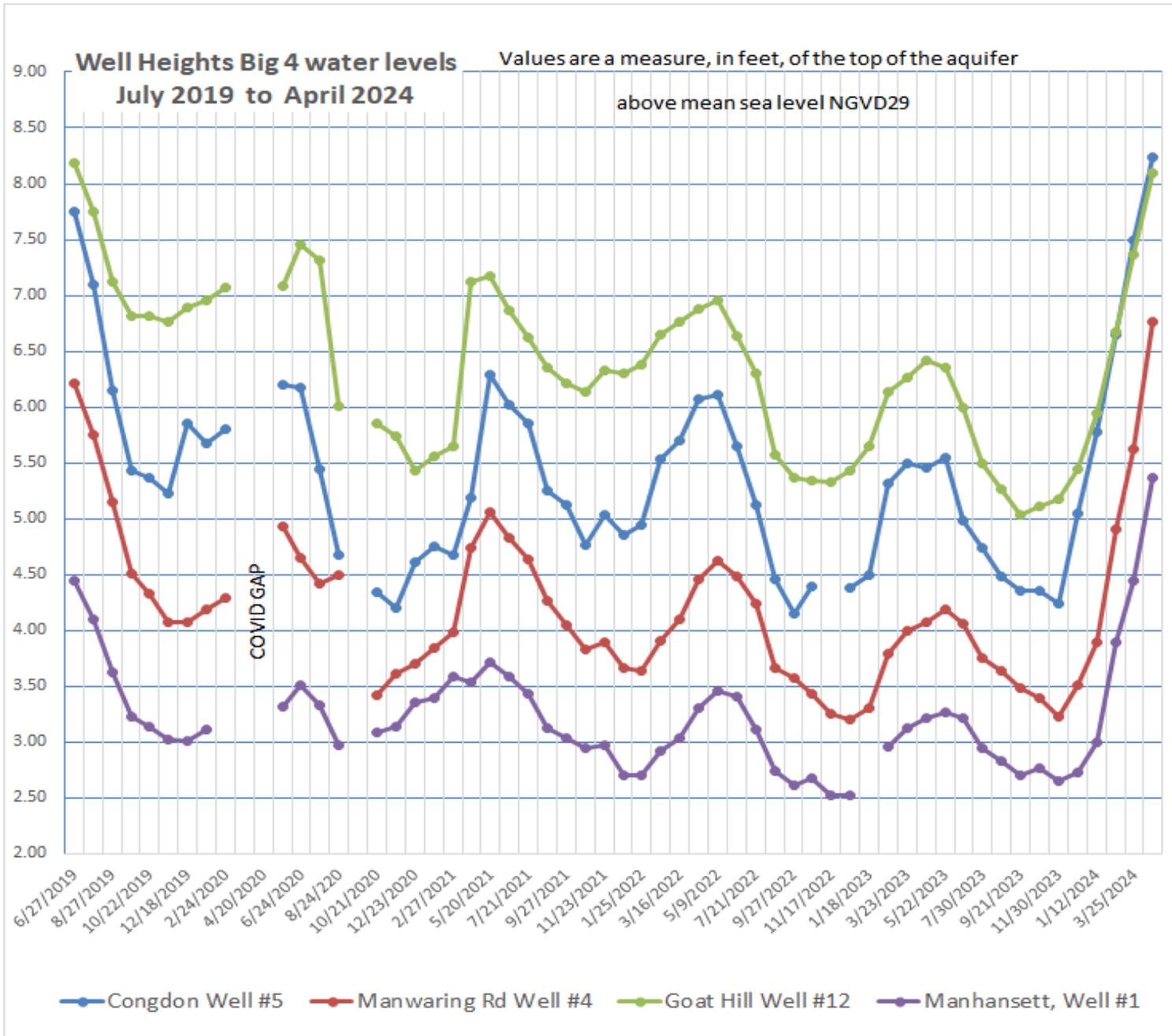
Section 4 - "Comparison of the size of the change in current well readings compared to the historic Median change for that month."

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

Overall, the increases in the Big 4 wells was much stronger than the norm. The strong drop in the Deer Park land is probably due to well maintenance.

April 29 024 SIZE OF CHANGE FROM PREVIOUS MONTH													
Measure in FEET	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
Well #	1	2	3	4	5	6	7	8	9	10	11	12	13
Change this month	0.92	0.22	(0.02)	1.14	0.74	(0.07)	0.05	(0.55)	(0.23)	0.12	0.48	0.72	0.04
Med Change	0.25	0.22	0.06	0.40	0.32	0.15	0.18	0.29	(0.10)	0.15	0.28	0.14	0.16
Big 4				Big 4	Big 4							Big 4	
	1.68		1.57	1.59		1.22		1.18					
	0.92		0.69	1.14	0.94	0.79	1.69	0.92				0.72	0.88
	0.85	0.51	0.39	0.96	0.88	0.75	0.74	0.81				0.59	0.77
	0.81	0.45	0.38	0.82	0.84	0.62	0.52	0.75				0.57	0.40
	0.70	0.44	0.34	0.75	0.75	0.51	0.48	0.63		1.16	0.65	0.51	0.39
	0.54	0.39	0.33	0.61	0.74	0.45	0.46	0.54	0.32	0.45	0.62	0.40	0.38
	0.46	0.38	0.26	0.59	0.61	0.35	0.37	0.49	0.09	0.38	0.57	0.24	0.25
	0.45	0.38	0.18	0.57	0.43	0.35	0.36	0.46	0.00	0.24	0.48	0.16	0.24
	0.39	0.30	0.10	0.47	0.38	0.23	0.25	0.43	(0.07)	0.20	0.43	0.15	0.20
	0.27	0.28	0.07	0.43	0.37	0.16	0.19	0.31	(0.07)	0.17	0.33	0.15	0.20
MEDIAN	0.25	0.22	0.06		0.32	0.15		0.29	(0.10)	0.15	0.28		0.16
	0.22	0.19	0.04	0.36	0.31	0.11	0.17	0.15	(0.14)	0.12	0.22	0.12	0.16
	0.21	0.14	0.02	0.35	0.26	0.02	0.05	0.04	(0.21)	0.00	0.15	0.09	0.04
	0.20	0.12	(0.02)	0.29	0.19	0.01	0.02	0.03	(0.23)	(0.04)	0.15	0.06	0.04
	0.10	0.03	(0.11)	0.24	0.10	(0.05)	(0.02)	(0.02)	(0.91)	(0.17)	0.13	0.05	0.03
	0.06	(0.07)	(0.13)	0.13	0.06	(0.07)	(0.30)	(0.07)	(1.52)	(0.20)	(0.01)	0.03	0.00
	0.04	(0.16)	(0.20)	0.12	(0.01)	(0.07)	(0.34)	(0.13)		(1.76)	(0.10)	(0.36)	(0.24)
	0.04	(0.16)	(0.23)	0.07	(0.03)	(0.43)	(0.51)	(0.22)				(0.39)	(0.28)
	(0.02)	(0.86)	(0.32)	(0.05)	(0.23)	(0.48)	(0.58)	(0.44)				(0.41)	(0.50)
	(0.11)		(0.59)	(0.08)	(0.57)	(1.03)	(1.90)	(0.55)					(0.56)
	(0.53)		(1.13)	(0.55)	(0.58)	(1.38)		(0.68)					(1.04)
Big 4				Big 4	Big 4							Big 4	
Change history - Current month compared to History													
# of tests	21	17	21	20	20	21	18	21	11	13	13	16	19
# with gain in height	18	13	13	17	15	14	12	14	2	8	11	13	13
# times well gained in Month	18/21	13/17	13/21	17/20	15/20	14/21	12/18	14/21	2/11	8/13	11/13	13/16	13/19
percent with gain	86%	76%	62%	85%	75%	67%	67%	67%	18%	62%	85%	81%	68%

Section 5 - "Raw" aquifer readings for the Big 4 wells. A very strong recharge continues. !



Comparison of current well highs compared to the peak of the 2010 Flooding Event.

Aquifer height values at the peak of the 2010 flooding event compared to current readings.
 The 2010 event had aquifer values over mean sea level of about 1.5 to 2.0 feet higher than current.

Well site	Well ID	Date of peak in 2010	Height of peak 2010	Current height April 29, 2024	Difference
			in feet over mean sea level per NGVD29		
Manhansett,	1	4/20/2010	7.05	5.37	1.68
Rocky Point Ave/Belvdr	2	4/7/2010	4.47	2.9	1.57
Big Ram Island	3	4/7/2010	2.5	1.96	0.54
Manwaring Rd	4	4/20/2010	8.88	6.76	2.12
Congdon	5	4/20/2010	10.22	8.24	1.98
Brander/Lilliput	6	4/7/2010	4.94	3.06	1.88
Menantic Rd	7	4/7/2010	3.8	2.49	1.31
Deer Park Lane	8	4/7/2010	6.94	5.03	1.91
Little Ram	9	4/7/2010	1.78	1.67	0.11
Dering Harbor	10	4/7/2010	3.6	2.63	0.97
Hay Beach	11	4/20/2010	5.65	3.79	1.86
Goat Hill	12	4/20/2010	10.12	8.09	2.03
Shorewood	13	4/7/2010	3.84	2.41	1.43