

**SHELTER ISLAND WATER ADVISORY COMMITTEE –  
February, 2023, Height data report **DRAFT****

**Summary/Conclusion - “Guarded”**

Islanders should maintain *voluntary water conservation measures*.

Big 4 values remain below the median values for February, with a very small decrease in the ranking chart January-to-February. The other wells had extremely strong increase in well height, values may be influenced by tides. The rate of aquifer recharge this month could be considered stable – no better, no worse.

**Discussion:**

**Section 1A and 1B - National Drought Monitoring and OUTLOOK Forecasting:**

Shelter Island remains classified as “D0 Abnormally Dry”. No forecast is available as the NIDIS [National Integrated Drought Information System] system does not forecast changes for areas in the “D0 Abnormally Dry” status.

**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.*

A slight drop compared to February history well height readings. All four wells remain under the median value.

**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.*

The majority of wells are above the median. However, the wells below median are the Big 4. A number of wells are uncharacteristically high – potentially the results have been impacted by strong tidal action.

**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. Ten of twelve wells increased much more than the median increase, with seven wells at the highest January-to-February increase ever recorded. Possible tidal influence?*

**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 strong increase noted, typical for February.*

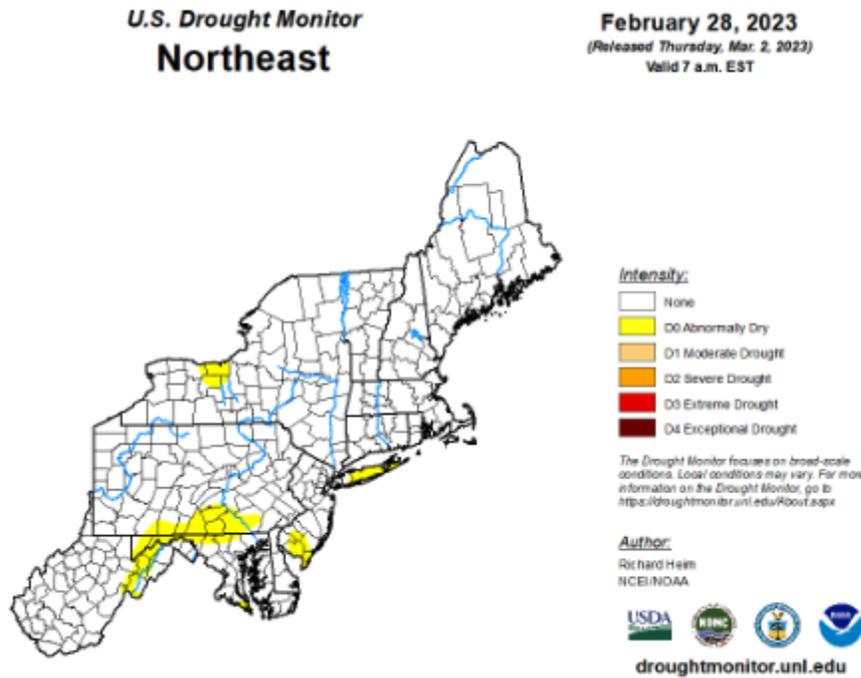
**Rainfall Status: Ken Reports:**

<b>Precipitation Report</b>						
Year	2023	2022	2021	2020	2019	2018
Month to date	1.25	4.11	3.63	3.59	2.84	5.18
<b>Year Precipitation to this date in 2023</b>						
	2023	2022	2021	2020	2019	2018
YTD	7.53	8.06	6.61	5.71	8.68	8.60

Well below average amount precipitation for February 2023 but about normal as to YTD numbers. It will be important to see if precipitation returns to average for March.

## Section 1 National Drought Monitoring

**A: CURRENT CONDITIONS:** Shelter Island remains classified as “D0 Abnormally Dry”.



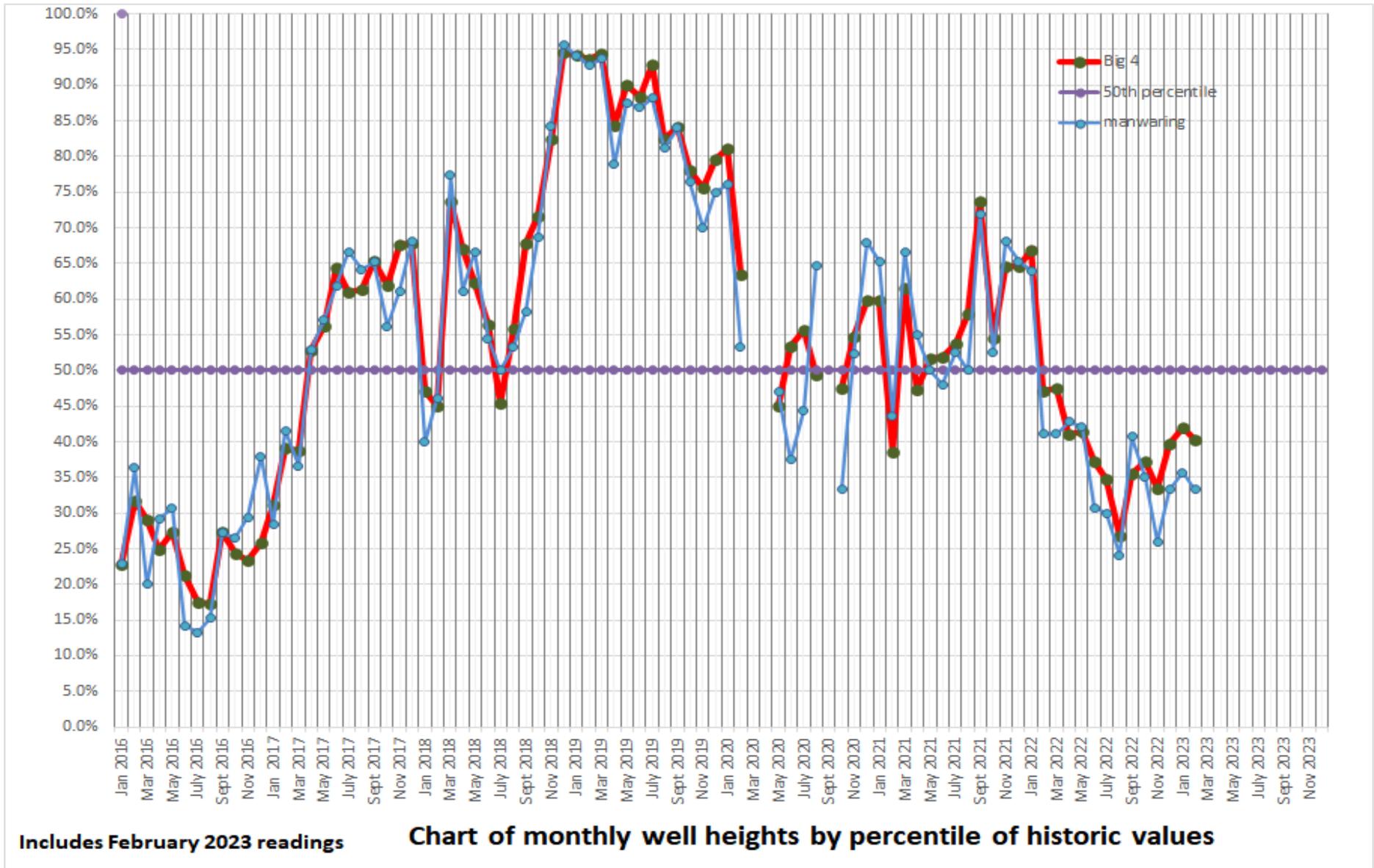
### **B: ONE- and THREE-MONTH DROUGHT OUTLOOK:**

[Forecast per NIDIS [National Integrated Drought Information System]]

No forecast is available as the NIDIS [National Integrated Drought Information System] system does not forecast changes for areas in the “D0 Abnormally Dry” status.

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

A slight drop compared to February history well height readings. All four wells remain under the median value.



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

The majority of wells are above the median. However, the wells below median are the Big 4. A number of wells are uncharacteristically high – potentially results have been impacted by strong tidal action.

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
February 23 2023	19	17	19	18	24	20	20	20	12	12	15	20	19
Median Value	3.07	1.79	1.20	3.98	5.43	2.06	1.65	3.34	1.01	1.70	2.14	6.22	1.43
This Month	2.96	2.25	2.17	3.79	5.32	2.21	2.06	3.39	2.22	2.2	2.47	6.14	1.88
January reading	2.7	1.9	1.57	3.64	4.95	2.05		3.11	1.46	1.82	2.18	5.93	1.46
Change from prior reading	0.26	0.35	0.60	0.15	0.37	0.16	2.06	0.28	0.76	0.38	0.29	0.21	0.42
	Big 4			Big 4	Big 4							Big 4	
					7.78								
					7.75								
	4.55		2.17		6.94	2.96	2.63	4.53				8.19	2.33
	4.51	2.68	1.87	6.18	6.89	2.54	2.06	4.51				7.88	1.89
	3.87	2.4	1.84	5.93	6.82	2.38	1.97	4.38				7.77	1.88
	3.82	2.25	1.46	5.19	6.56	2.35	1.86	4.08			2.97	7.38	1.73
	3.59	2.23	1.39	5.09	6.37	2.34	1.77	3.51	2.22	2.59	2.97	7.07	1.72
	3.57	2.21	1.38	4.66	6.14	2.34	1.77	3.5	1.38	2.2	2.56	7.04	1.63
	3.53	1.99	1.38	4.35	5.8	2.21	1.76	3.5	1.33	2	2.5	6.83	1.55
	3.47	1.96	1.34	4.32	5.79	2.16	1.76	3.47	1.29	1.84	2.47	6.65	1.51
	3.22	1.92	1.23	4.29	5.77	2.13	1.75	3.39	1.28	1.77	2.33	6.56	1.45
	3.18	1.88	1.21	4.28	5.67	2.08	1.68	3.37	1.23	1.76	2.21	6.49	1.44
Median Value				3.98	5.54	2.06	1.65	3.34	1.01	1.70	2.14	6.22	
	2.96	1.69	1.19	3.91	5.32	1.96	1.63	3.27	0.97	1.57	2.13	6.22	1.42
	2.95	1.67	1.15	3.82	5.25	1.95	1.56	3.22	0.96	1.55	1.97	6.16	1.40
	2.92	1.67	1.12	3.79	5.23	1.93	1.53	3.14	0.91	1.52	1.93	6.14	1.33
	2.73	1.61	1.12	3.67	4.98	1.84	1.51	3.07	0.89	1.42	1.91	6.06	1.30
	2.69	1.54	1.07	3.26	4.91	1.82	1.49	3.00	0.84	1.39	1.82	5.97	1.27
	2.47	1.49	1.06	3.19	4.79	1.77	1.33	2.93	0.16	1.39	1.77	5.73	1.15
	2.33	1.44	1.04	3.06	4.68	1.75	1.32	2.89			1.71	5.70	1.13
	2.15	1.42	1.03	2.92	4.54	1.56	1.30	2.86			1.68	5.65	1.11
	2.12	1.42	1.03	2.57	4.20	1.27	1.22	2.77				5.62	1.11
	1.83		0.62		3.76	1.24	1.04	2.18				5.47	0.95
					3.67								
					3.48								
	Big 4			Big 4	Big 4							Big 4	
<b>CURRENT MONTH ANALYSIS</b>													
percentrank current read to historic range	47%	88%	100%	33%	46%	70%	95%	60%	100%	92%	73%	35%	89%
Percent to median	-4%	26%	81%	-5%	-2%	7%	25%	1%	120%	29%	16%	-1%	31%
historic minimum	1.83	1.42	0.62	2.57	3.48	1.24	1.04	2.18	0.16	1.39	1.68	5.47	0.95
percent above minimum	62%	58%	250%	47%	53%	78%	98%	56%	1288%	58%	47%	12%	98%
Current height compared to median	(0.11)	0.47	0.97	(0.19)	(0.11)	0.15	0.41	0.05	1.21	0.50	0.34	(0.08)	0.45

**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. Ten of twelve wells increased much more than the median increase, with seven wells at the highest January to February increase ever recorded. Possible tidal influence?

<b>February 2023 SIZE OF CHANGE FROM PREVIOUS MONTH</b>													
	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 v previous	0.26	0.35	0.60	0.15	0.37	0.16	2.06	0.28	0.76	0.38	0.29	0.21	0.42
Med Change	0.16	0.00	(0.05)	0.15	0.41	0.03	0.07	0.14	(0.05)	(0.07)	0.03	0.23	0.02
	Big 4			Big 4	Big 4							Big 4	
			0.60		0.83		2.06					1.06	0.42
	0.54		0.45	1.01	0.62	0.61	0.87	0.56				0.51	0.36
	0.45	0.35	0.38	0.76	0.59	0.47	0.55	0.46				0.50	0.32
	0.44	0.35	0.27	0.55	0.54	0.25	0.46	0.39	0.76	0.38	0.41	0.37	0.30
	0.35	0.34	0.24	0.47	0.54	0.23	0.36	0.32	0.26	0.35	0.29	0.35	0.25
	0.33	0.22	0.19	0.37	0.49	0.23	0.29	0.28	0.23	0.17	0.29	0.30	0.16
	0.27	0.16	0.12	0.35	0.47	0.16	0.28	0.27	0.17	0.10	0.11	0.30	0.15
	0.26	0.14	0.10	0.31	0.45	0.15	0.15	0.24	0.14	0.09	0.09	0.28	0.14
	0.22	0.14	0.01	0.27	0.44	0.13	0.08	0.19	0.00	(0.05)	0.08	0.27	0.07
	0.19	0.12	(0.03)	0.15	0.41	0.08	0.07	0.16	(0.05)	(0.07)	0.04	0.25	0.02
<b>MEDIAN</b>	0.16	0.00	(0.05)	0.15	0.41	0.03	0.07	0.14	(0.05)	(0.07)	0.03	0.23	0.02
	0.12	0.00	(0.07)	0.14	0.40	0.03	0.05	0.11	(0.08)	(0.12)	0.01	0.21	(0.05)
	0.12	(0.07)	(0.09)	0.14	0.37	0.00	(0.05)	0.07	(0.09)	(0.16)	(0.05)	0.17	(0.10)
	0.09	(0.07)	(0.18)	0.11	0.29	(0.03)	(0.09)	0.03	(0.45)	(0.27)	(0.06)	0.17	(0.11)
	0.05	(0.11)	(0.22)	0.10	0.26	(0.04)	(0.16)	0.02	(0.57)	(0.30)	(0.10)	0.14	(0.13)
	0.02	(0.12)	(0.27)	0.08	0.21	(0.08)	(0.17)	0.02	(0.65)	(0.39)	(0.14)	0.11	(0.15)
	0.00	(0.23)	(0.31)	0.05	0.13	(0.20)	(0.21)	0.02	(1.32)	(0.78)	(0.16)	0.09	(0.18)
	(0.01)	(0.24)	(0.31)	(0.11)	0.09	(0.23)	(0.22)	0.00			(0.21)	0.09	(0.19)
	(0.05)	(0.34)	(0.44)	(0.12)	(0.03)	(0.26)	(0.42)	(0.20)				0.06	(0.37)
	(0.15)	(1.25)	(0.51)		(0.07)	(0.59)	(0.65)	(0.29)				0.05	(0.40)
			(0.79)		(0.41)	(0.72)						(0.04)	
percentrank current read to historic change	67%	100%	100%	47%	40%	74%	100%	78%	100%	100%	93%	45%	100%

**Section 5 - "Raw" aquifer readings for the Big 4 wells.**  
 A strong increase noted, typical for February.

