SOUTH FLORIDA WATER MANAGEMENT DISTRICT

MAY 2025

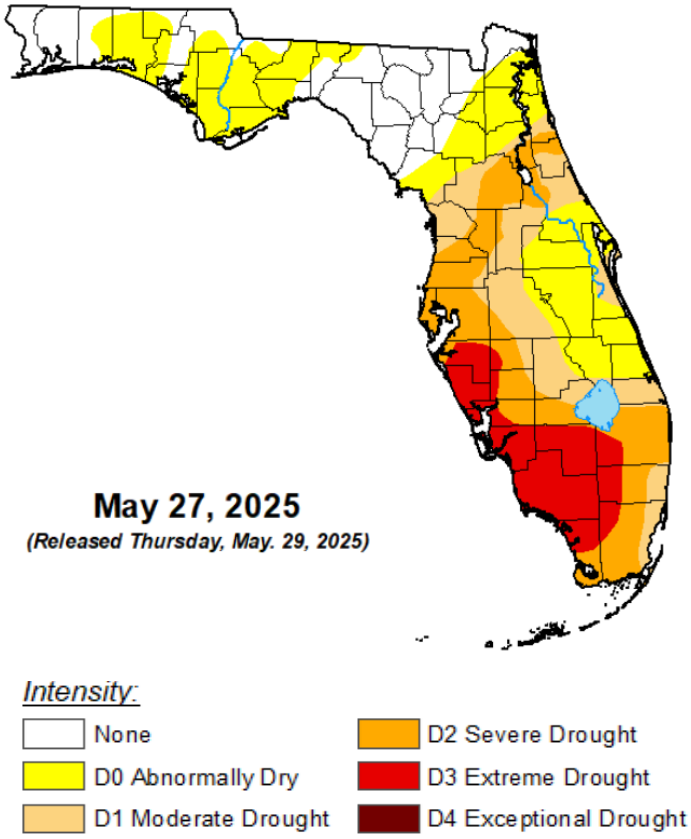
Big Cypress Basin Hydrologic Report

sfwmd.gov

SUMMARY OF HYDROLOGIC CONDITIONS IN THE BIG CYPRESS BASIN

May 2025

SUMMARY

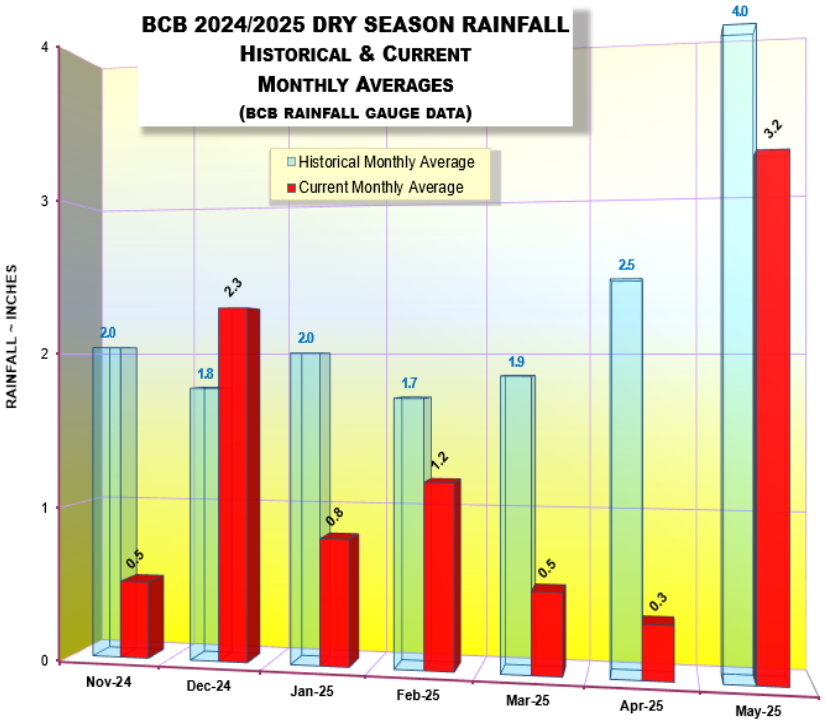


May began dry for the Big Cypress Basin (BCB), capping an unusually dry winter and early spring. Due to the prolonged dry conditions, drought conditions expanded in May to cover all of Collier County. As of May 27, 2025 the U.S. Drought Monitor listed all of Collier County in condition D3 - Extreme Drought.

Although May began dry, more normal rainfall returned in the second half of the month. The return of rainfall led to the official return of the wet season on May 22nd. While the rainfall in the second half of May heralded in the 2025 wet season, it was insufficient to alleviate the drought conditions nor bring the total rainfall for May up to the long tern monthly average of 4.0 inches.

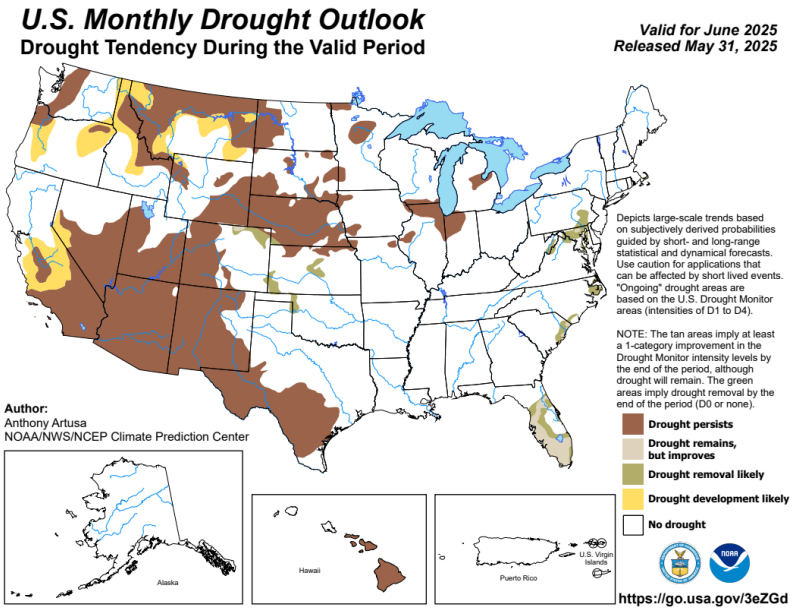
May's rainfall, as measured at and averaged from 24 rain gauges in and around the BCB, indicates the Basin received a average rainfall up to 3.2 inches (80% of normal) for the month.

Based upon the long term average, the BCB typically receives 15.9 inches of rainfall between November 1st and the end of May. During this past dry season, and as discussed above, precipitation totals were considerably below normal. The BCB only received 8.8 inches of rainfall (55% of normal) over this same seven-month period.



These prolonged and extreme dry conditions caused canal and groundwater levels to continue to recede through the first half of the May, after which they leveled off due to the return of more typical rainfalls associated with the onset of the wet season. Though water levels had generally leveled off by month's end, they had not yet begun their seasonal rise. Additional rainfall in June and into the wet season will be required to fully recover from the prolonged dry conditions.

Though the 2024/2025 dry season rainfall was extreme, the continued operation of the system in water conservation regimens through May allowed the BCB to capture and hold on to the rainfall that was received until the rain returned in late May. Though some canals clearly showed the impacts of the extended dry conditions, many were still operating between the 25th and 75th percentile due to water conservation regimens.



As discussed above, the dry season has come to an end and the steady decline in water levels has leveled off. The U.S. Monthly Drought Outlook anticipates that the drought will continue into June, but is likely to lessen. El Niño/Southern Oscillation neutral (ENSO-neutral) conditions are expected in the Northern Hemisphere in the summer of 2025, hopefully resulting in near normal precipitation.

Looking forward into June, BCB structures will transition into flood control regimes as rainfalls return and canal water levels approach seasonally normal levels.

MAY 2025 BCB RAINFALL

The Basin-wide rain gauge monthly average rainfall was **3.2** inches, 0.8 inches below the historical monthly average of 4.0 inches (80% of historical) (**Figures 1, 2, 3 Table 1**). Rainfall distribution varied highly by location, with the highest value of 5.36 inches recorded at Station R-8 (FAKA UNION #5). The areas closer to the coast generally received lower rainfall totals with R-11 (COLLIER SEMINOLE STATE PARK) recording 1.88 inches and R-7 (SGGE WEATHER STATION) recording just 1.76 inches. **Figure 3a** shows the average rainfall for each of the Basin's watersheds based on gauge adjusted radar (Raindar). The Okaloacoochee Basin received the highest Raindar rainfall with a 4.56 inch areal average across the watershed, and the lowest was the East Naples Basin with an average of just 1.89 inches. The BCB's total areal weighted average Raindar rainfall was 3.33 inches, which closely corresponds to the rain gauge average value of 3.2 inches. The Raindar totals and their locality distribution across the BCB/ Lower West Coast are shown on **Figure 4**.

BIG CYPRESS BASIN CANAL SYSTEMS

For most of the month of May, BCB structures continued to be operated in water conservation mode to retain as much water as possible and promote groundwater recharge. Due to the severe and prolonged dry conditions, significant capacity existed in the canal system, and the rainfalls in the second half of the month did not require adjustment or operation of water control structures By the end of May, the onset of the wet season has resulted in most canals leveling off with roughly half of the canals operating between the 25th and 50th percentile. Several canals were operating between the 10th and 25th percentile, and a few remained below the 10th percentile. The Faka Union Canal upstream of FU5 improved to the 90% percentile due to a significant localized rainfall in the watershed immediately upstream of the structure (**Figure 4a**).

GOLDEN GATE SYSTEM

Control structures in the Golden Gate Main Canal system were managed in water conservation mode in May to conserve as much water as possible to promote groundwater re-charge. No discharge occurred from GG1 to the Gordon River during the month of May, and no conservation pumping occurred at Airport Road Canal or CR951 Canal. As a result of the dry conditions, – and with the majority of rainfall falling inland – Airport Road Canal water levels remained below the 10th percentile in May. By the end of the month, most of the Golden Gate Main Canal system was below the 25th percentile, with the exception of the segment immediately upstream of GG4. (**Figure 5**)

COCOHATCHEE SYSTEM

The Cocohatchee Canal system was maintained in water conservation mode for all of May and all structures remained fully closed. As the month concluded, water levels in the lower portion of the canal system had recovered and all segments were operating between the 25th and 75th percentile (**Figures 6A, 6B, & 6C**). By the end of May, water levels at CORK3 had yet not returned sufficiently for the sensor to its stage. (**Figures 6A, 6B, & 6C**).

FAKA UNION SYSTEM

All areas of the Faka Union canal remained in water conservation operations and all structures were fully closed in May. Due to intense rainfall in the vicinity of FU5, water levels north of the structure rose to the 90th percentile in late May. The canal segment immediately south of FU5 received a similar, but smaller, benefit from the rainfall and rose to above the 25th percentile by the end of the month. Downstream of FU4S, the canal continues to operate between the 25th and 50th percentile. No pumping occurred in April at the Faka Union pump station (S487). Downstream of Picayune Strand , the water level immediately upstream of FU1 (the fixed crest weir just north of U.S. Highway 41) continued to occasionally increase in stage due a combination of localized rainfall and tidal overtopping of the fixed crest weir. (**Figure 7A & 7B**).

HENDERSON CREEK SYSTEM

As with the other BCB canals, water control structures in the Henderson Creek system continued to be operated to conserve water. Canal levels upstream of HC2 remained below the 25th percentile at the end of May, while levels between HC1 and HC2 continued to operate between the 25th and 75th percentile (**Figure 8A & 8B**). Both control structures remained fully closed and no water was released downstream through the HC1 structure in the month of May.

CORKSCREW SWAMP

Figure 10 shows the historical trends for Corkscrew, Bird Rookery, and the Cork 3 structure and the 2025 corresponding levels. All three sites experienced continuing water level recession during May, due to a lack of rainfall combined with the seasonal increase in evapotranspiration. By the end of May, the water level at CORK3 remained below the lower range of the sensor – as is common late in the dry season – resulting in continuation of the “flatlining” of the water level at 10.65 NAVD. This also occurred at Bird Rookery (BRDROOK) which “flatlined” at 10.79 NAVD. No discharge has occurred through CORK2 since January, and continued operations of CORK2 above its historical dry season regimen provided no noticeable benefit in limiting water level recession rates in Corkscrew Swamp. As **Figure 11** shows, Lake Trafford also continues its seasonal recession, and was approaching the 25th percentile by the end of May.

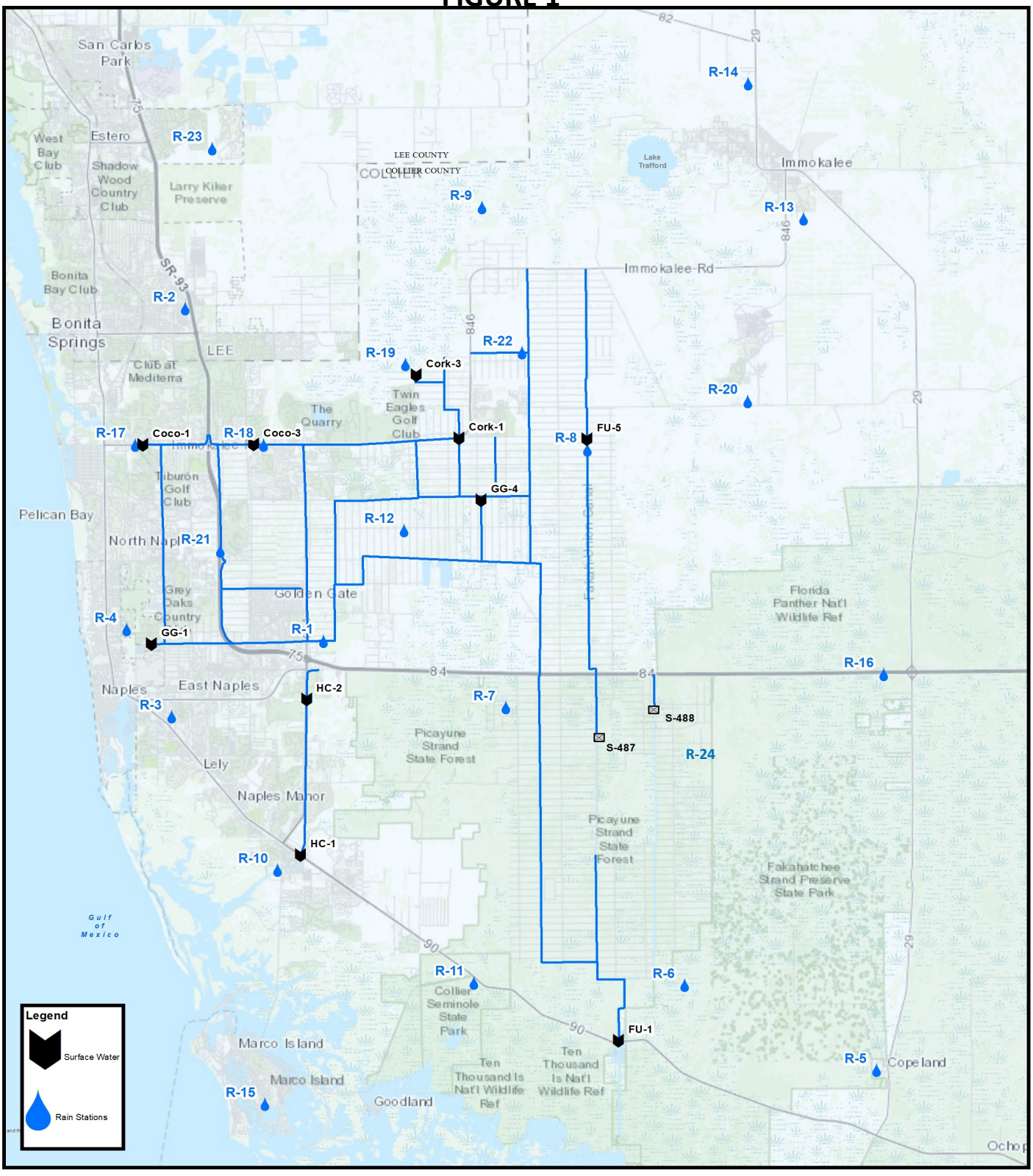
Figures 12 and Figure 13 show the locations for Southern Corkscrew (SOCREW) sites 1 through 6, all of which are combination surface and groundwater monitoring wells. The charts on these figures , as well as the historical trends for SOCREW1 and SOCREW2. Both SOCREW1 and SOCREW2 ended the month just at approximately the 25th percentile. The SOCREW sites 3, 4, 5 and 6 are newer sites and only have a period of record for approximately 2.5 years, so there is not adequate data to complete a statistical analysis.

BIG CYPRESS BASIN & LOWER WEST COAST GROUNDWATER LEVELS

For the Lower West Coast [LWC], the water levels in the groundwater monitoring stations continued their decline in May, with the recession rate varying based upon location (**Table 2 and Figure 9**). C-462, north of Lake Trafford, dropped below the 50th percentile but remains well above the level of low concern. C-1224, near Henderson Creek, also dropped below the 50th percentile in May, and briefly crossed the low concern line at the end of the month. C1004R, near the Cocohatchee Canal, continued its downward trend and trended near its historical low levels. Though near its historical low, C1004R levels responded quickly as the wet season started at the end of the month. All reported wells appeared to have hit the dry season low around May 24 and starting increasing to more normal levels moving into June.

L-738 a Tamiami Aquifer well in Bonita Springs continued its steady recession, and by mid-May was trending below historical minimums for that well. Fortunately, the wet season commencement reversed the recession and water levels are increasing rapidly due to daily rainfall. L-2194, a Sandstone Aquifer well in Bonita Springs, spent most of the month below the high concern indicator but as the month ended water levels started rising quickly. Though within the area of high concern, L-2194 is not heavily relied upon for water supply and started to rebound quickly in late May as the rains returned. L-2195, a surficial aquifer well in Bonita Springs spent May trending around the 25th percentile and starting increasing in late May as the rains returned.

FIGURE 1



N W E S

0 2.5 5
Miles

BIG CYPRESS BASIN
SFWMD
2660 Horseshoe Dr. N.
Naples, Florida 34104
239-263-7615

Hydrologic Station Map

Collier County, Florida

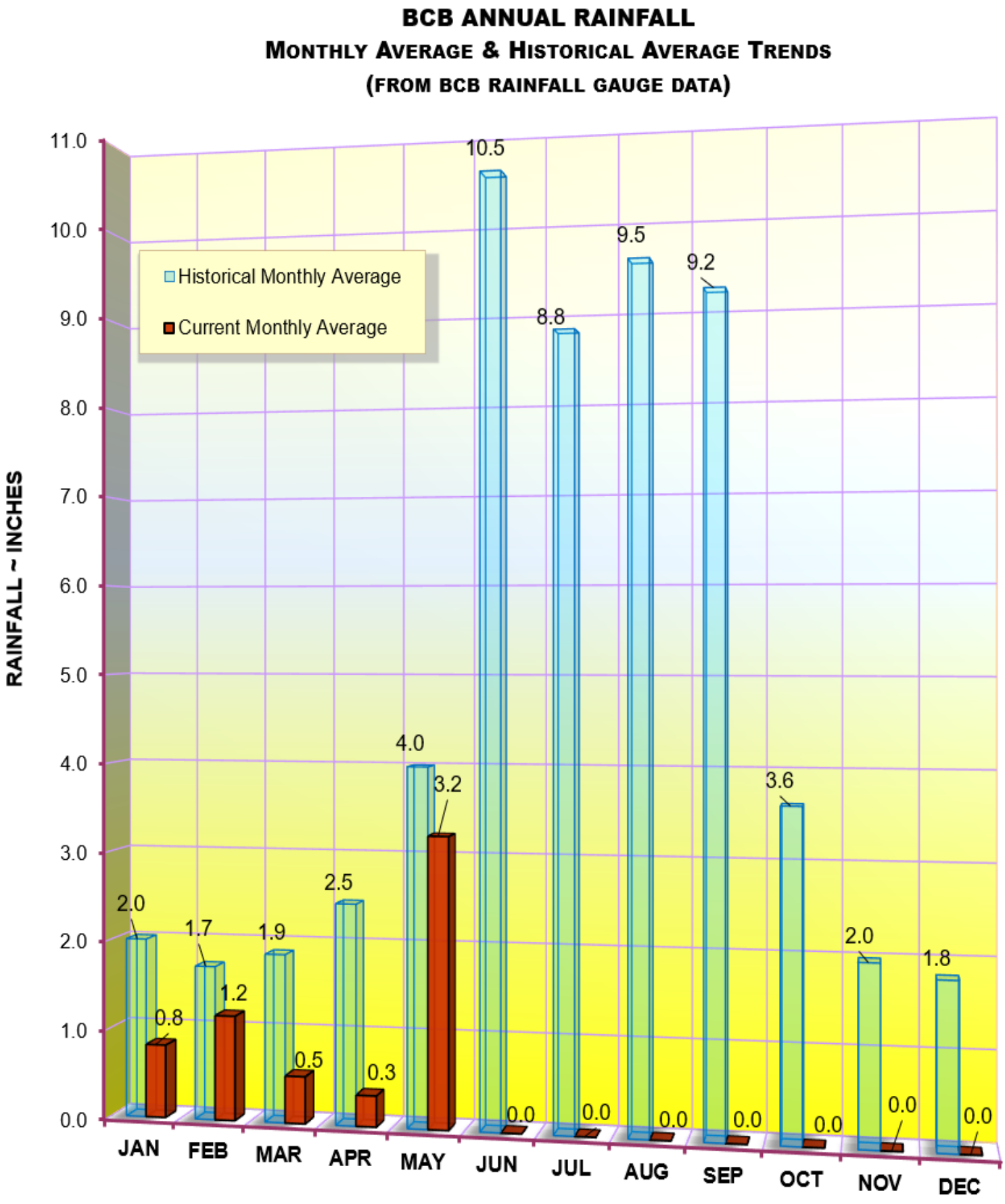
UPDATED July 2021

Hydrologic_map_Jan_2016.mxd

TABLE 1
RAINFALL REPORT - MAY 2025
DISTRICT/BASIN RAINFALL STATIONS
(ALL NUMBERS ARE IN INCHES)

STATION INDEX NO.	STATION NAME	May-25	LONG TERM MONTHLY AVERAGE	MONTHLY DIFFERENCE	CALENDAR YEAR 2025 CUMULATIVE TOTAL	AVERAGE CALENDAR YEAR TO DATE	YEAR TO DATE DIFFERENCE
R-1	GG#3	3.28	5.13	-1.85	4.53	12.91	-8.38
R-2	BONITA SPRINGS WATER PLANT	3.47	3.42	0.05	7.14	11.54	-4.40
R-3	COLLIER COUNTY COURTHOUSE	2.29	3.58	-1.29	4.21	11.70	-7.49
R-4	FREEDOM PARK	2.36	3.97	-1.61	4.82	11.35	-6.53
R-5	FAKAHATCHEE STRAND HQ	3.03	4.62	-1.59	5.68	12.78	-7.10
R-6	DAN HOUSE PRAIRIE	4.26	3.52	0.74	7.23	10.49	-3.26
R-7	SGGE WEATHER STATION	1.76	4.72	-2.96	4.48	12.41	-7.93
R-8	FAKA UNION #5	5.36	4.64	0.72	8.91	13.53	-4.62
R-9	CORKSCREW SWAMP NORTH END	4.47	3.39	1.08	7.02	10.77	-3.75
R-10	ROOKERY BAY HQ	2.56	3.35	-0.79	4.53	10.92	-6.39
R-11	COLLIER SEMINOLE STATE PARK	1.88	3.51	-1.63	5.49	11.45	-5.96
R-12	G.G. FIRE STATION	2.03	4.11	-2.08	5.17	12.55	-7.38
R-13	IMMOKALEE LANDFILL	3.83	4.20	-0.37	8.18	12.90	-4.72
R-14	IFAS	3.74	4.04	-0.30	6.77	13.01	-6.24
R-15	MARCO R.O. PLANT	2.40	3.10	-0.70	5.57	11.75	-6.18
R-16	FAKAHATCHEE STRAND NORTH END	2.96	4.95	-1.99	6.63	14.90	-8.27
R-17	COCO#1	3.81	2.83	0.98	6.18	10.50	-4.32
R-18	COCO#3	3.29	3.26	0.03	5.79	10.78	-4.99
R-19	BIRD ROOKERY	2.59	4.38	-1.79	5.79	10.89	-5.10
R-20	AVE MARIA	3.14	4.31	-1.17	6.68	13.10	-6.42
R-21	I75W2	4.07	3.93	0.14	6.43	10.47	-4.04
R-22	GG#7	3.98	3.89	0.09	7.06	10.95	-3.89
R-23	FPWX	3.98	2.68	1.30	6.36	10.73	-4.37
R-24	DSOTO10	3.00	6.32	-3.32	5.91	16.66	-10.75
	AVERAGES	3.23	3.99	-0.76	6.11	12.04	-5.94

FIGURE 2
BCB GAUGE RAINFALL MONTHLY AVERAGES



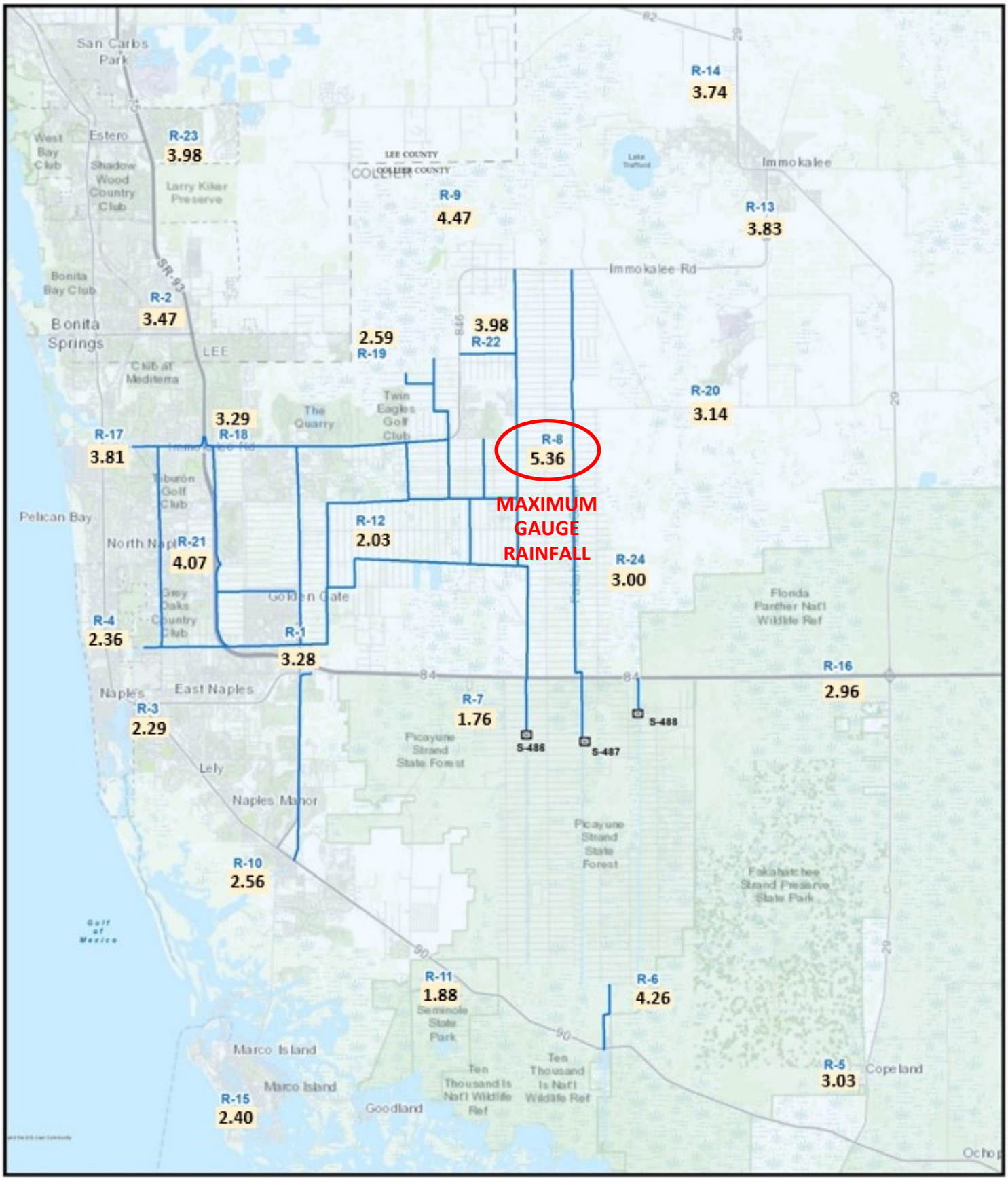
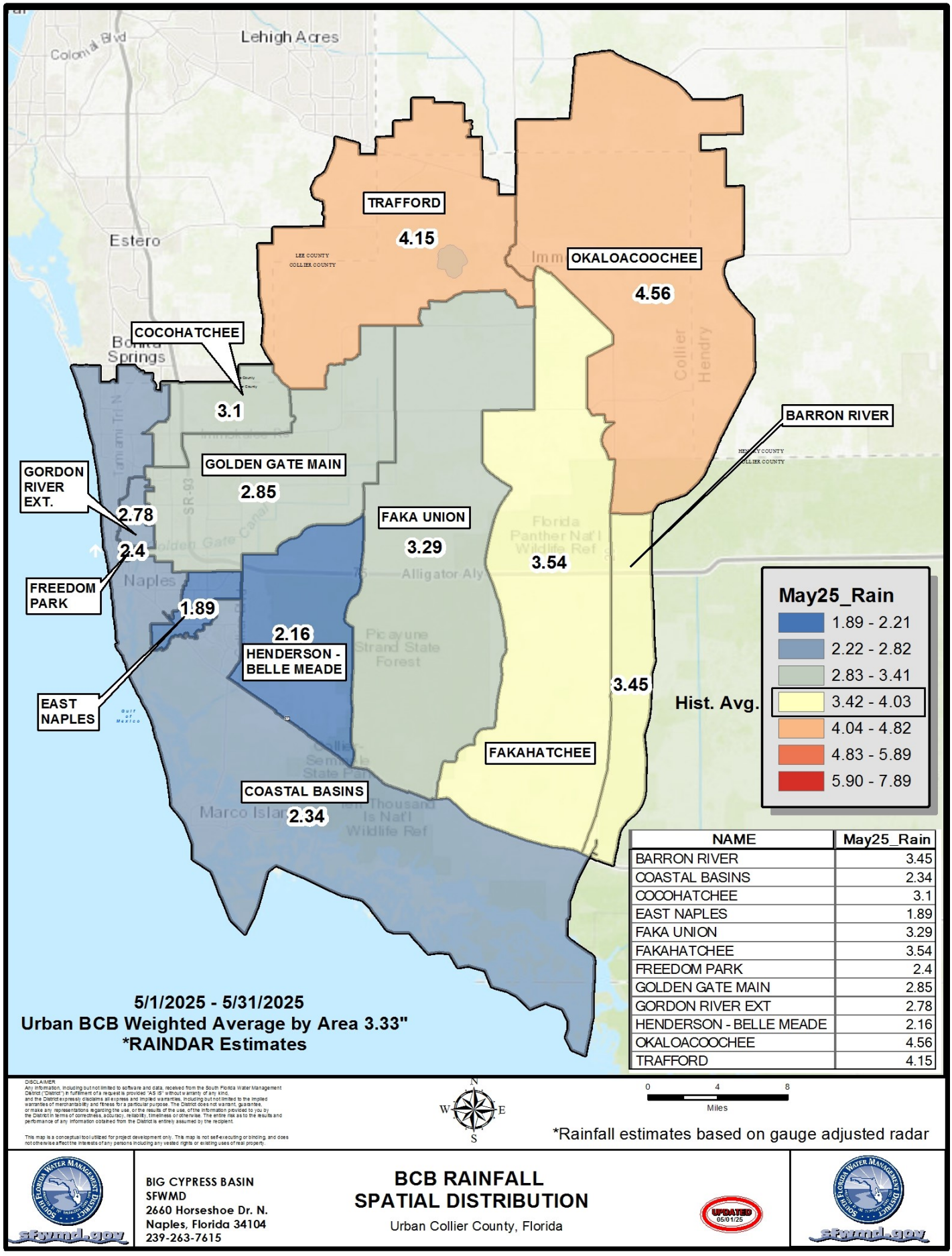
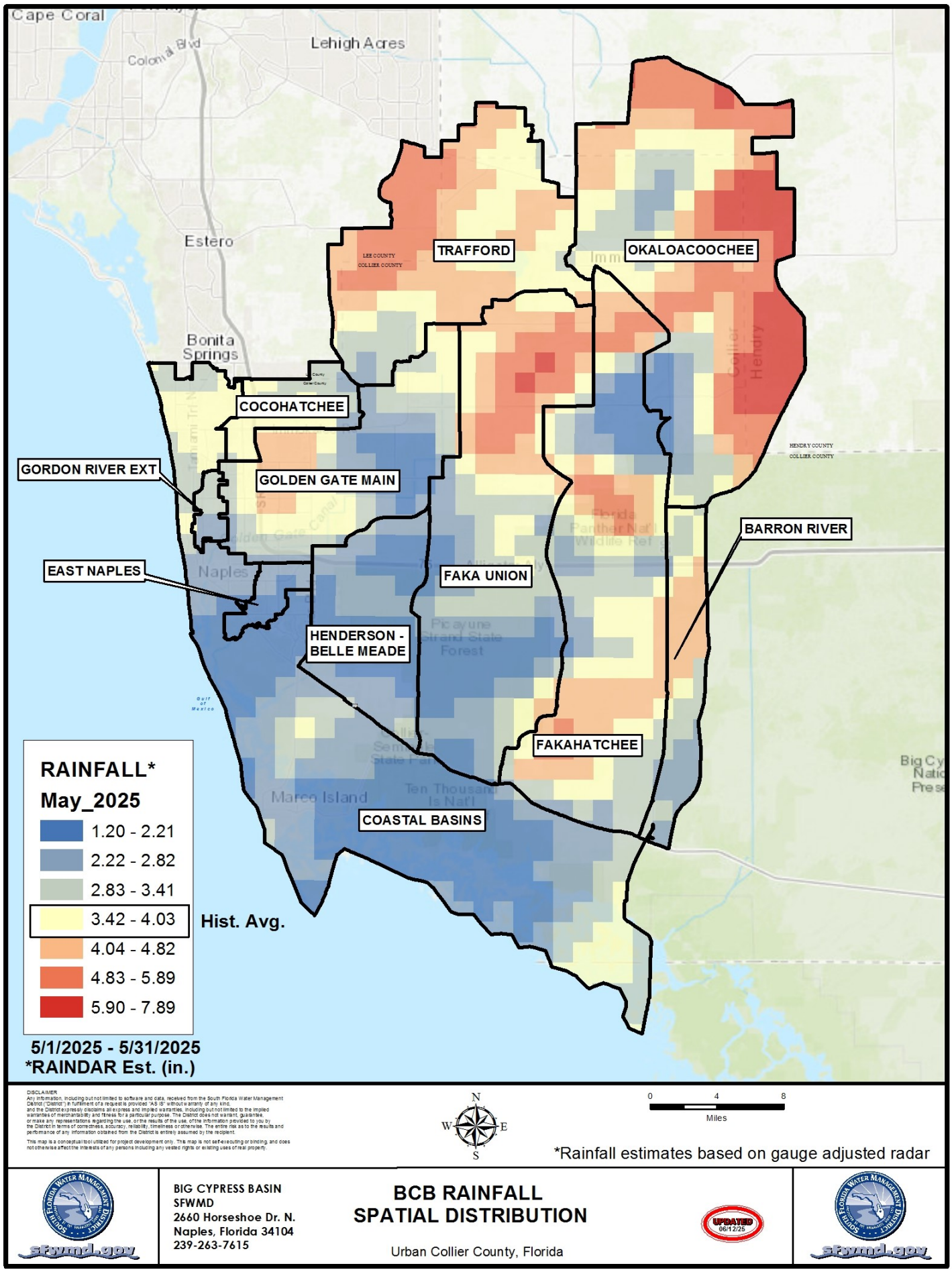


FIGURE 3
BCB RAINFALL DISTRIBUTION
MAY 2025

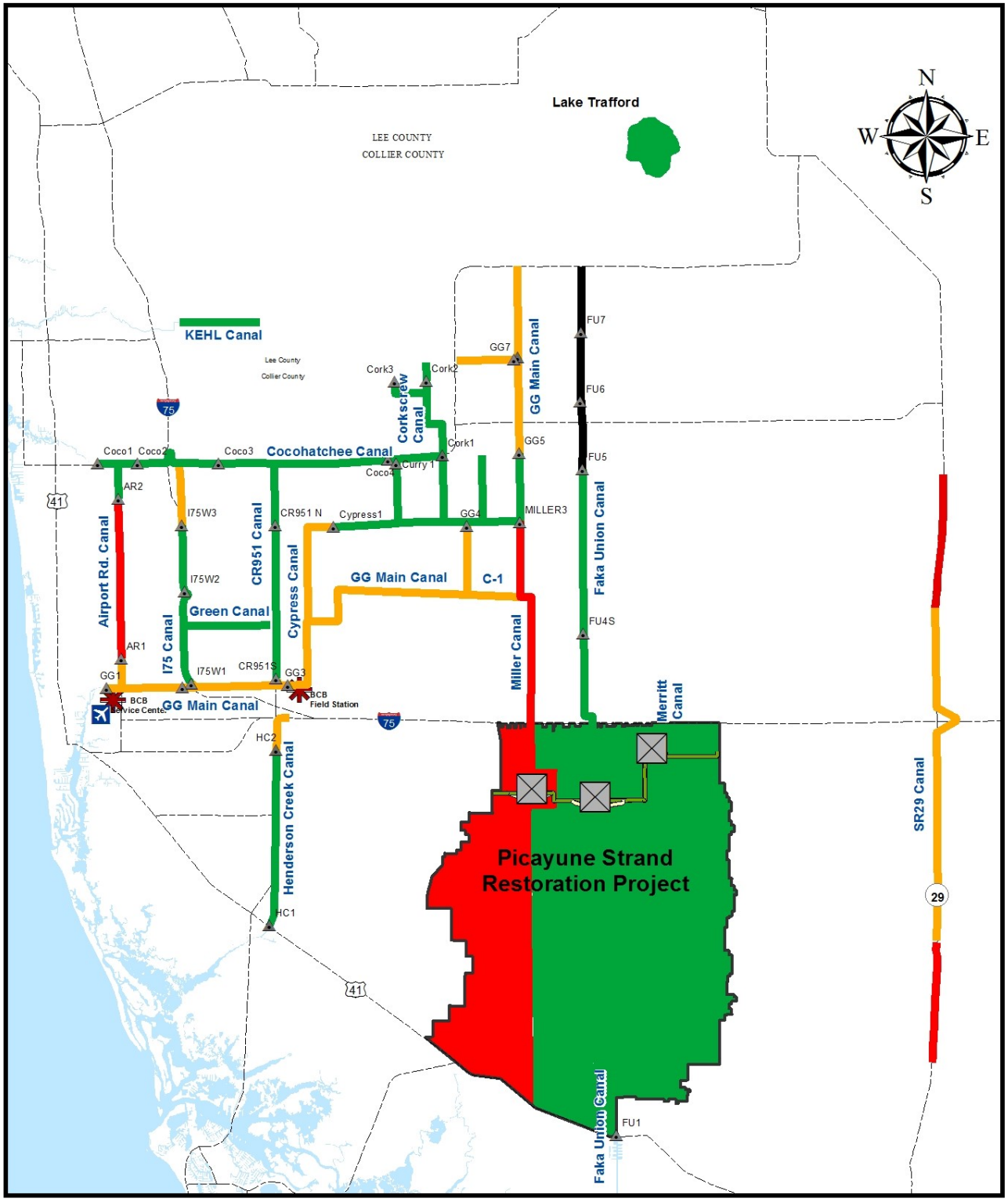


NAME	May25_Rain
BARRON RIVER	3.45
COASTAL BASINS	2.34
COCOHATCHEE	3.1
EAST NAPLES	1.89
FAKA UNION	3.29
FAKAHATCHEE	3.54
FREEDOM PARK	2.4
GOLDEN GATE MAIN	2.85
GORDON RIVER EXT	2.78
HENDERSON - BELLE MEADE	2.16
OKALOACOOCHEE	4.56
TRAFFORD	4.15

MAY 2025—FIGURE 3a



MAY 2025—FIGURE 4



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This map is a conceptual tool utilized for project development only. This map is not self-executing or binding, and does not otherwise affect the interests of any persons including any vested rights or existing uses of real property.

Percentile Classes

< 10	10 - 24	25 - 75	76 - 90	> 90

* Based on period of record for each canal reach

0 2.5 5
Miles

BIG CYPRESS BASIN
SFWMD
2660 Horseshoe Dr. N.
Naples, Florida 34104
239-263-7615

BCB Conditions Index 5/31/25

Urban Collier County, Florida

UPDATED 06/01/25

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FIGURE 4a

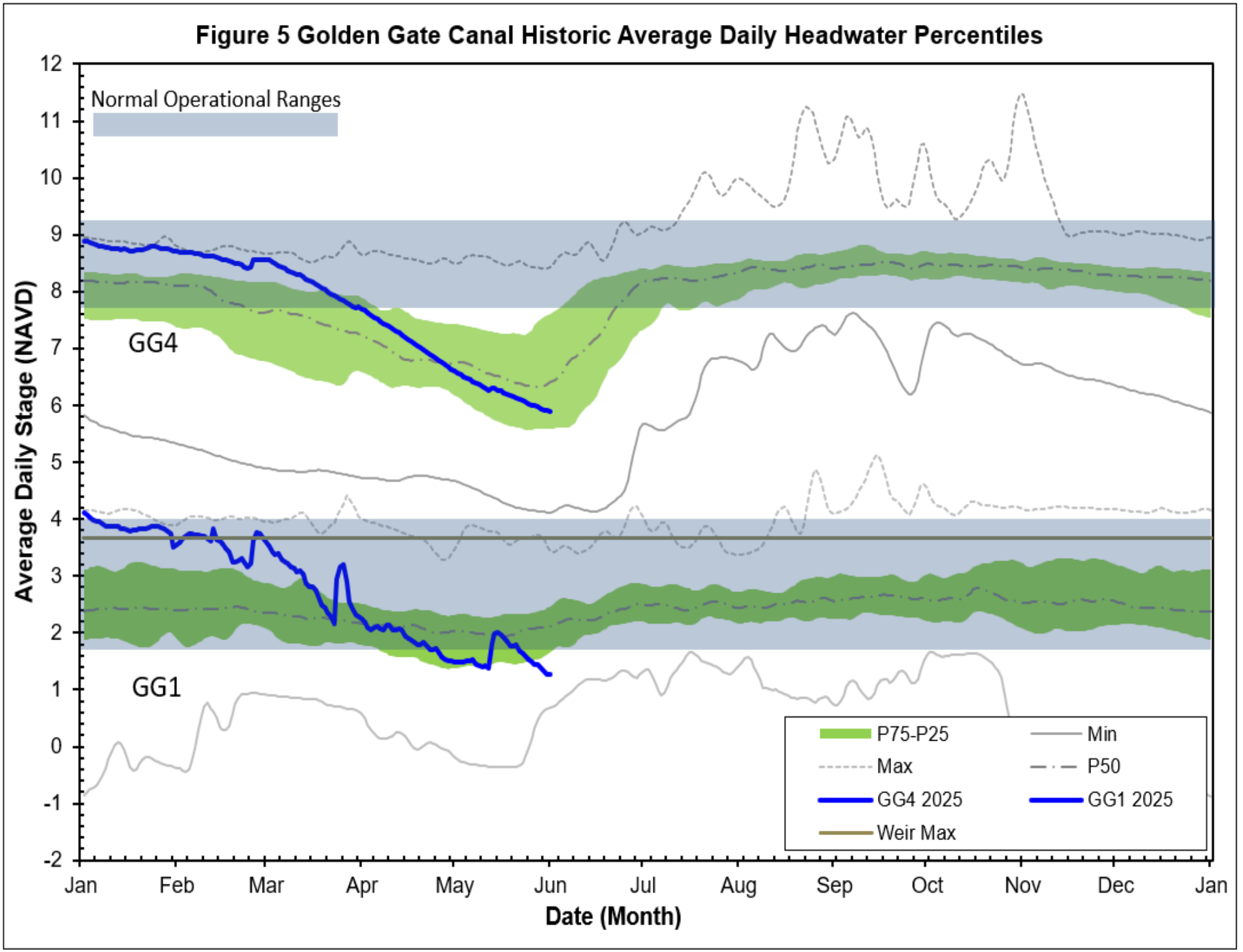


Figure 5 Golden Gate Canal Historic Average Daily Headwater Percentiles
Normal Operational Ranges
GG4
GG1
Average Daily Stage (NAVD)
12
11
10
9
8
7
6
5
4
3
2
1
0
-1
-2
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Date (Month)
P75-P25
Min
Max
P50
GG4 2025
GG1 2025
Weir Max

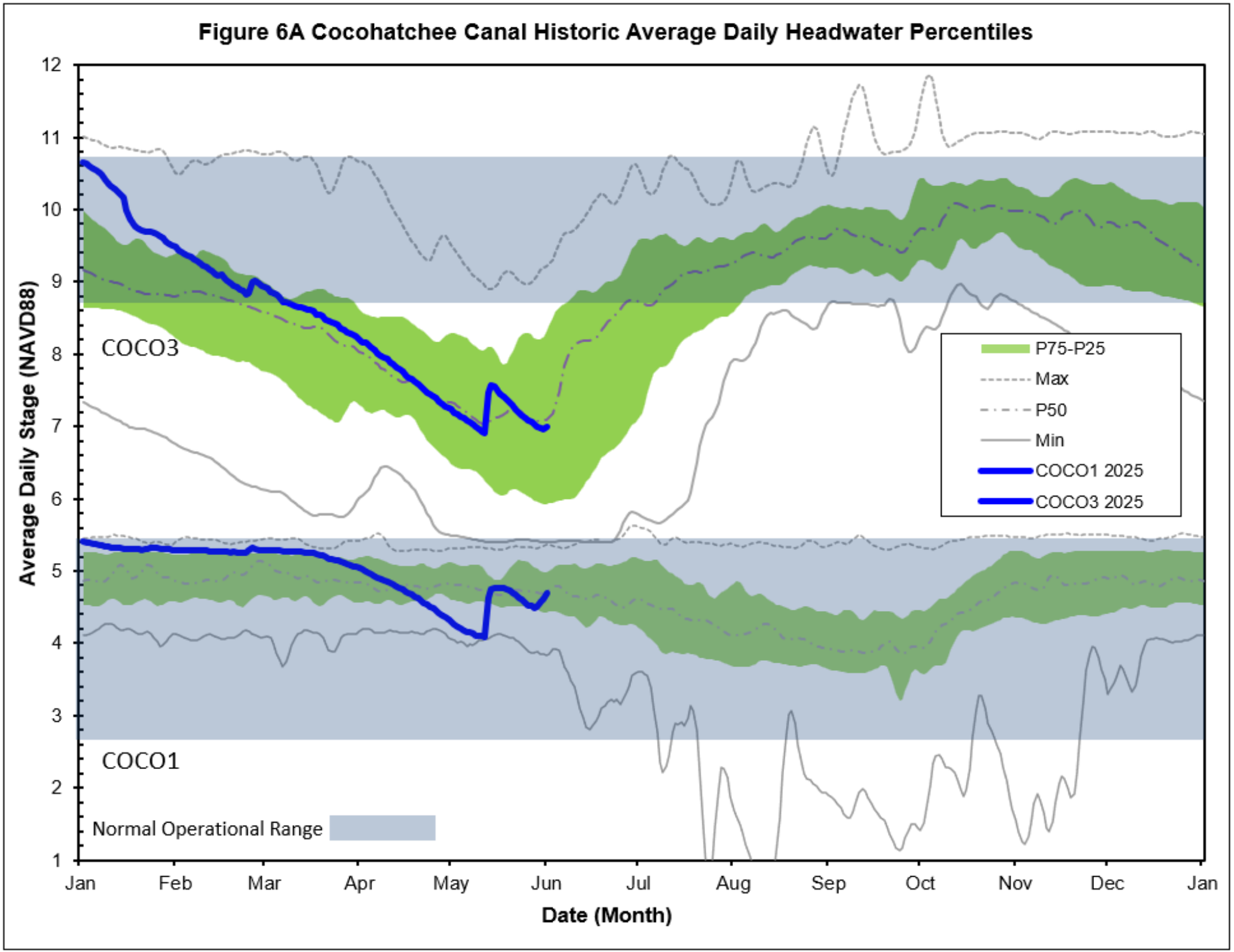


Figure 6A Cocohatchee Canal Historic Average Daily Headwater Percentiles
Average Daily Stage (NAVD88)
12
11
10
9
8
7
6
5
4
3
2
1
COCO3
COCO1
Normal Operational Range
P75-P25
Max
P50
Min
COCO1 2025
COCO3 2025
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Date (Month)

Figure 6B - CORK1 Historic Daily Headwater Percentiles

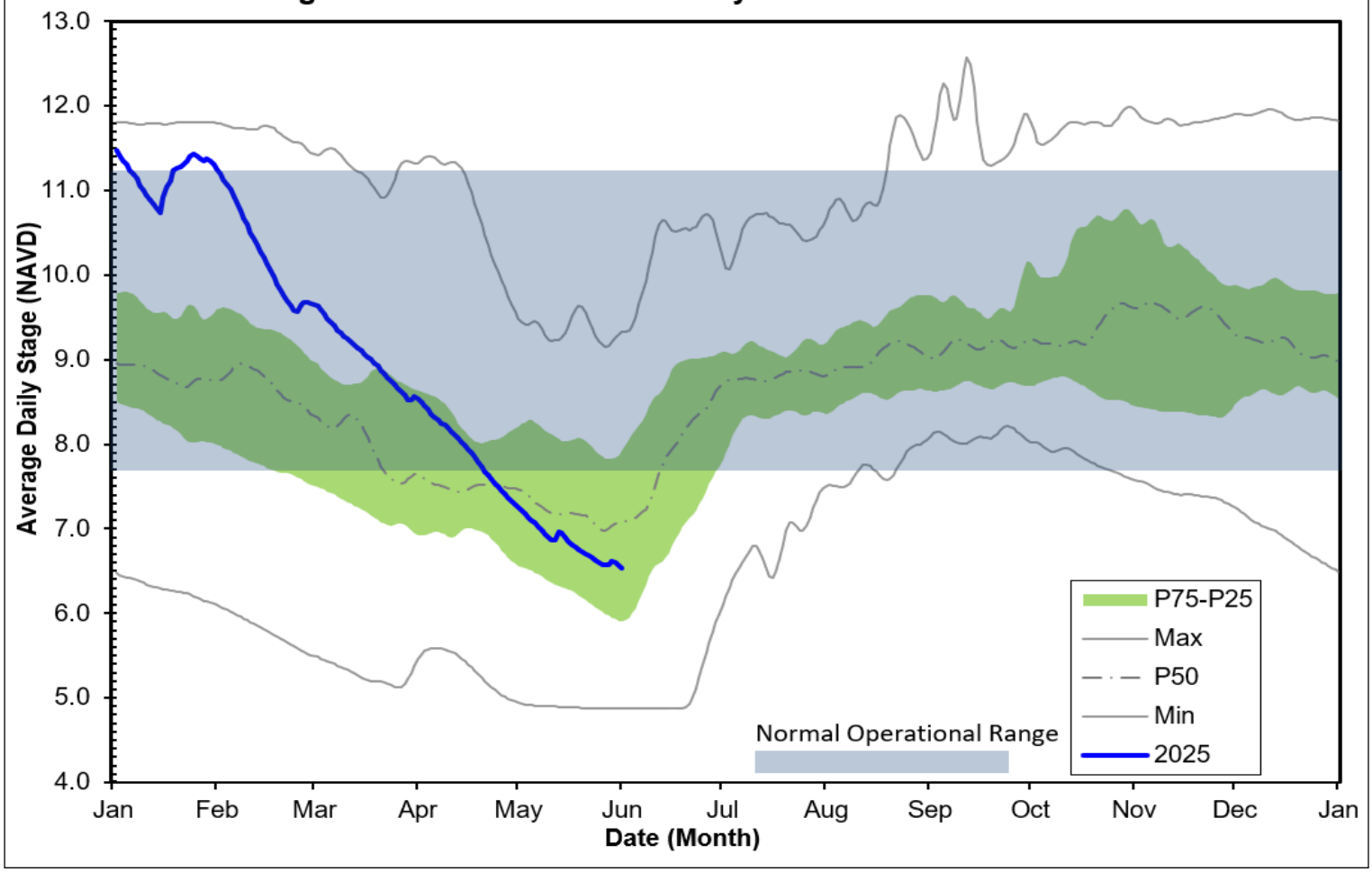
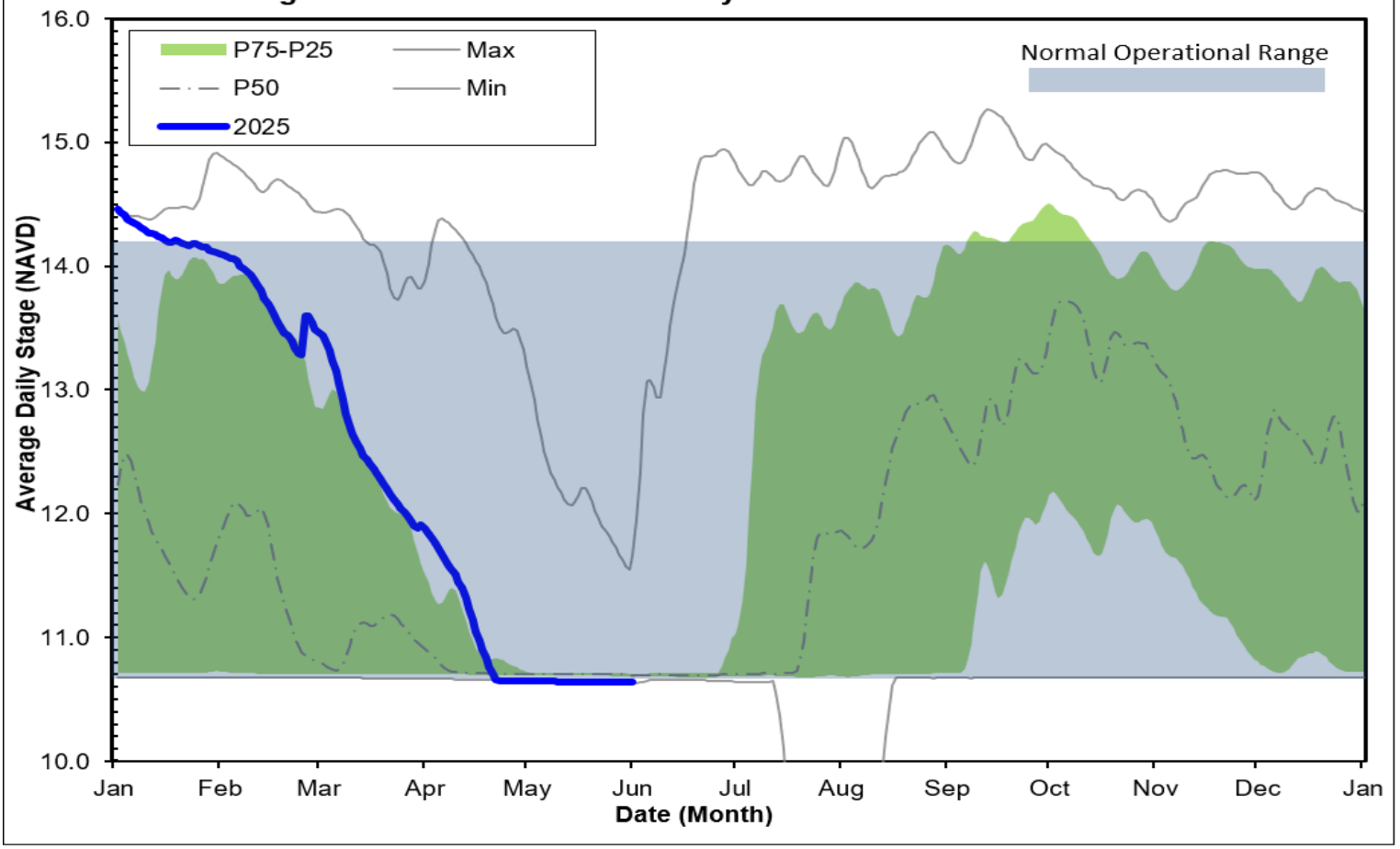
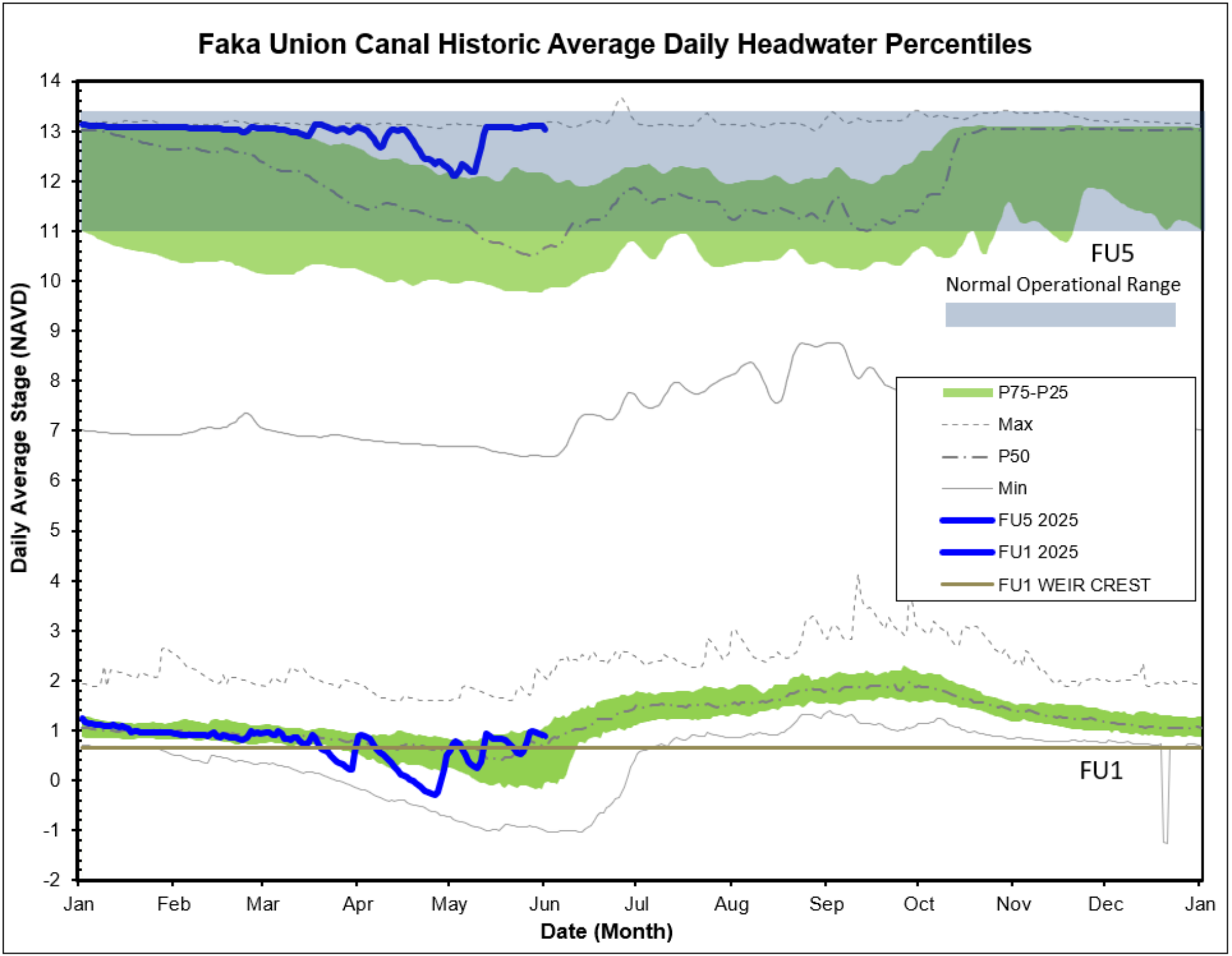
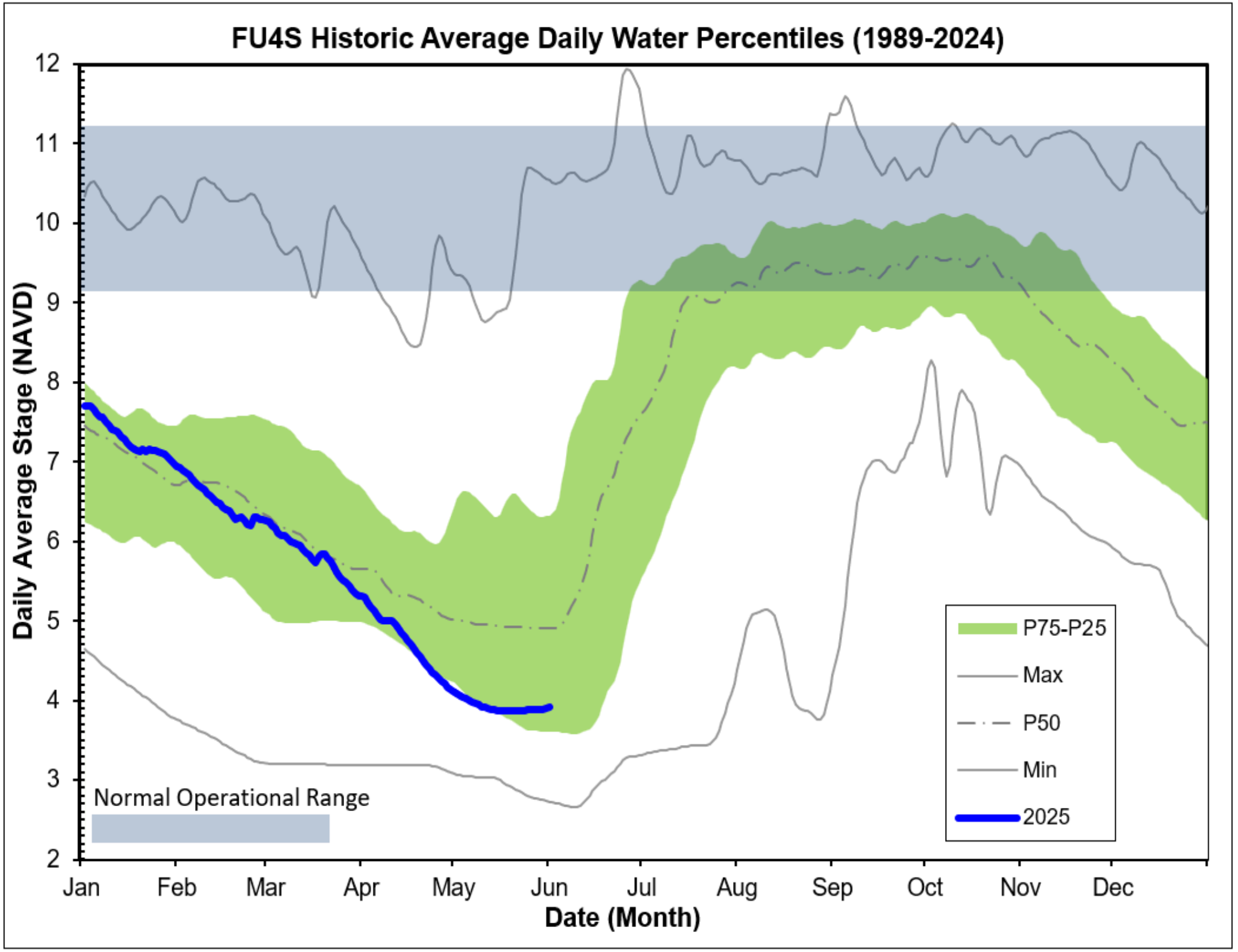


Figure 6C - CORK3 Historic Daily Headwater Percentiles




Faka Union Canal Historic Average Daily Headwater Percentiles
Daily Average Stage (NAVD)
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
-1
-2
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Date (Month)
FU5
Normal Operational Range
FU1
P75-P25
Max
P50
Min
FU5 2025
FU1 2025
FU1 WEIR CREST


FU4S Historic Average Daily Water Percentiles (1989-2024)
Daily Average Stage (NAVD)
12
11
10
9
8
7
6
5
4
3
2
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Date (Month)
Normal Operational Range
P75-P25
Max
P50
Min
2025

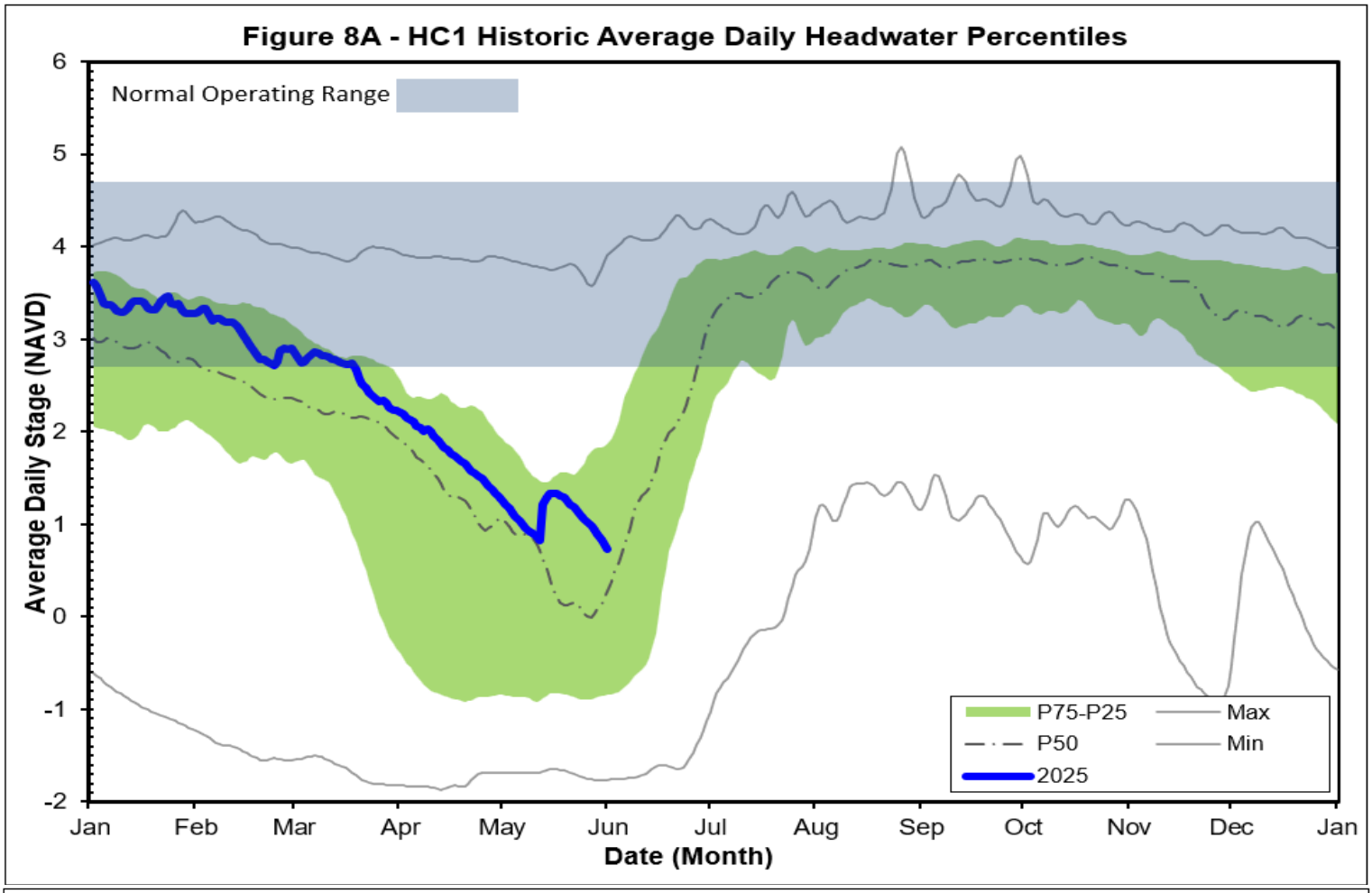


Figure 8A - HC1 Historic Average Daily Headwater Percentiles
Normal Operating Range
Average Daily Stage (NAVD)
6
5
4
3
2
1
0
-1
-2
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Date (Month)
P75-P25
Max
P50
Min
2025

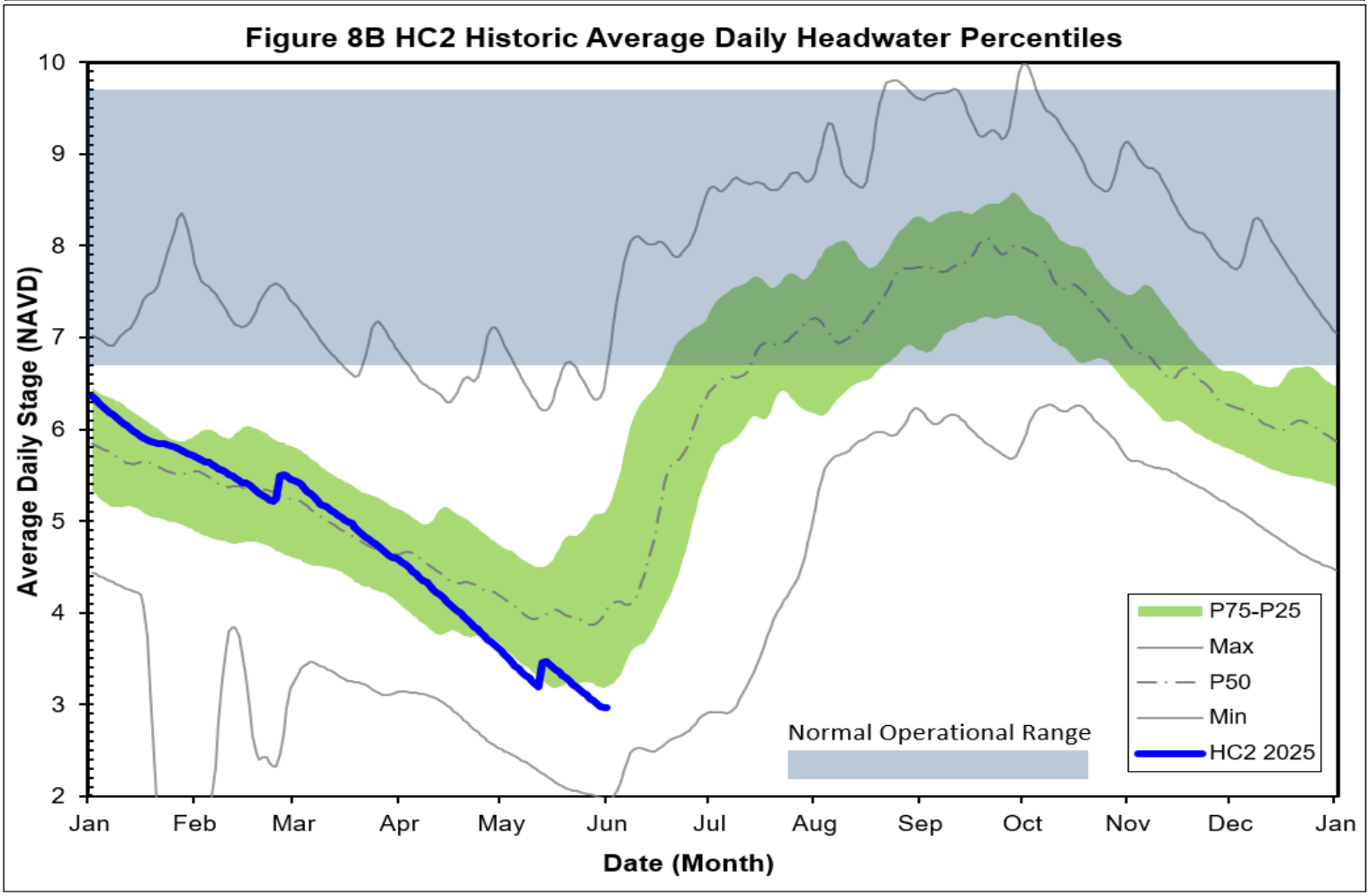


Figure 8B HC2 Historic Average Daily Headwater Percentiles
Average Daily Stage (NAVD)
10
9
8
7
6
5
4
3
2
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Date (Month)
P75-P25
Max
P50
Min
HC2 2025
Normal Operational Range

Last Reading Date :		May 31, 2025					
Previous Period Reading Date:		April 30, 2025					
STATION INDEX NO.	WELL LOCATION	WELL / AQUIFER - TYPE	CHANGE (from previous date)	PREVIOUS LEVEL	CURRENT LEVEL (ft)	DIRECTION OF CHANGE	CONCERN INDICATOR
ALL INDICATOR LEVELS SHOWN IN FT-NGVD							
C-462	Immokalee	Lower Tamiami Aquifer	0.19	25.70	25.89	↑	GREEN
C-1004R	Naples	Lower Tamiami Aquifer	0.39	-4.03	-3.64	↑	YELLOW
C-1224	Marco Lakes	Lower Tamiami Aquifer	-0.41	0.63	0.22	↓	YELLOW
C-948R	Golden Gate	Mid Hawthorn Aquifer	-2.15	27.07	24.92	↓	
C-951R	Golden Gate	Lower Tamiami Aquifer	0.17	-2.05	-1.88	↑	
L-2194	Bonita Springs	Sandstone Aquifer	0.75	-4.47	-3.72	↑	RED
L-2195	Bonita Springs	Surficial Aquifer System	-0.14	5.98	5.84	↓	YELLOW
L-738	Bonita Springs	Lower Tamiami Aquifer	0.65	-7.61	-6.96	↑	YELLOW

TABLE 2
BCB WATER CONDITIONS SUMMARY
MAY 2025

BIG CYPRESS BASIN

MAY 31,2025

GROUNDWATER LEVEL DAILY TRENDS COMPARED TO HISTORICAL AVERAGE

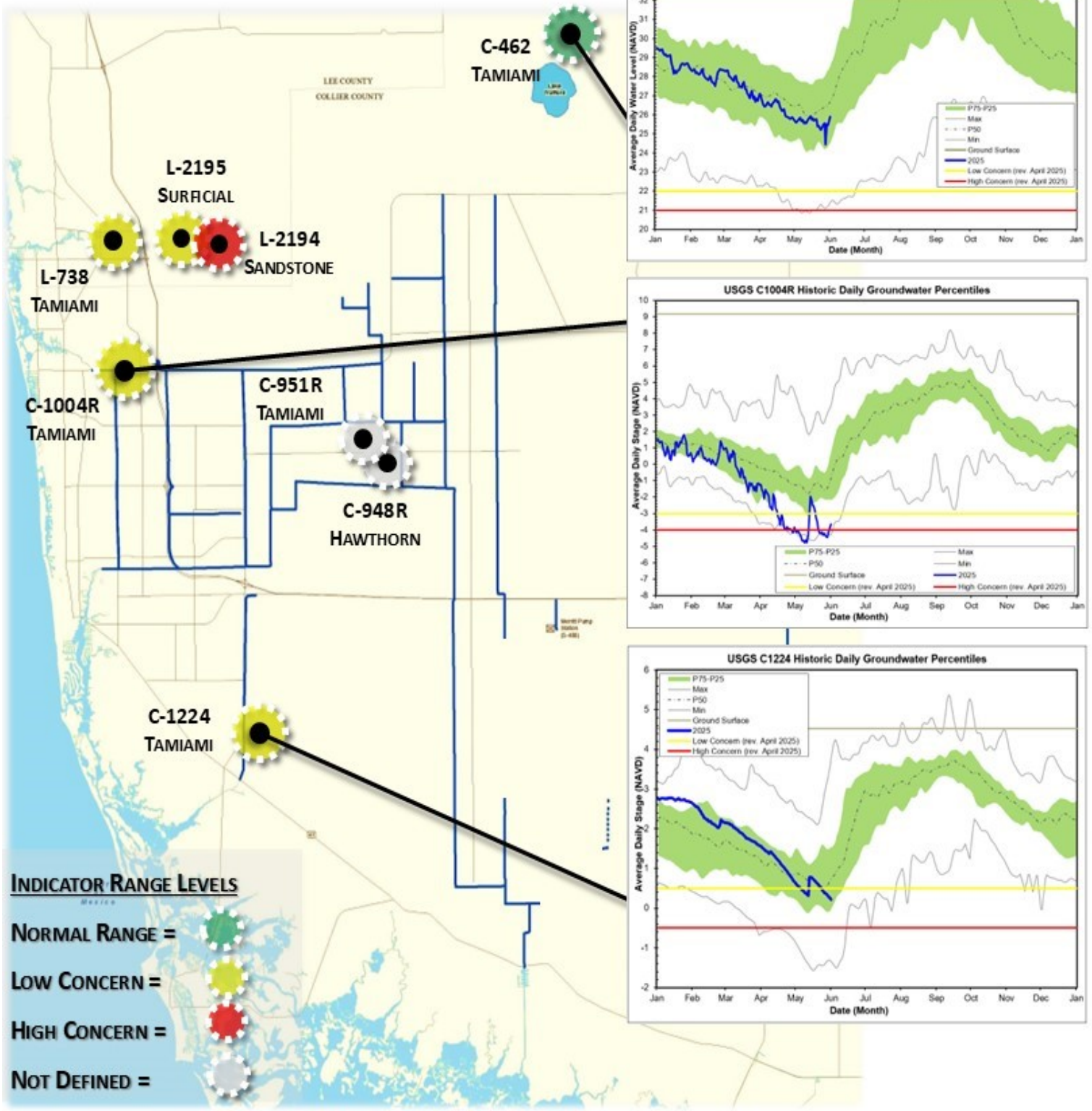


FIGURE 9

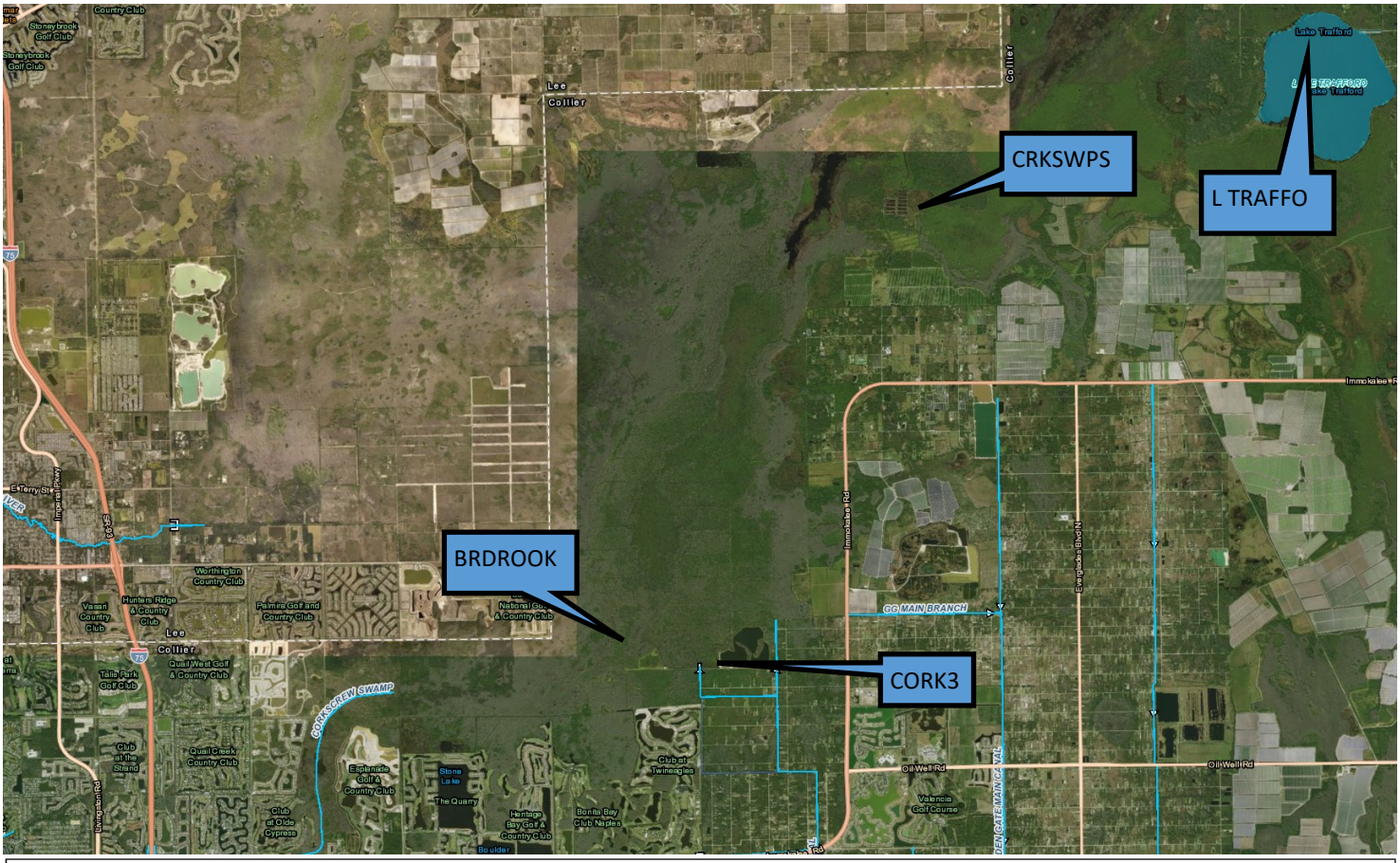


Figure 10-Corkscrew Historic Average Daily Headwater Percentiles (1984-2024)

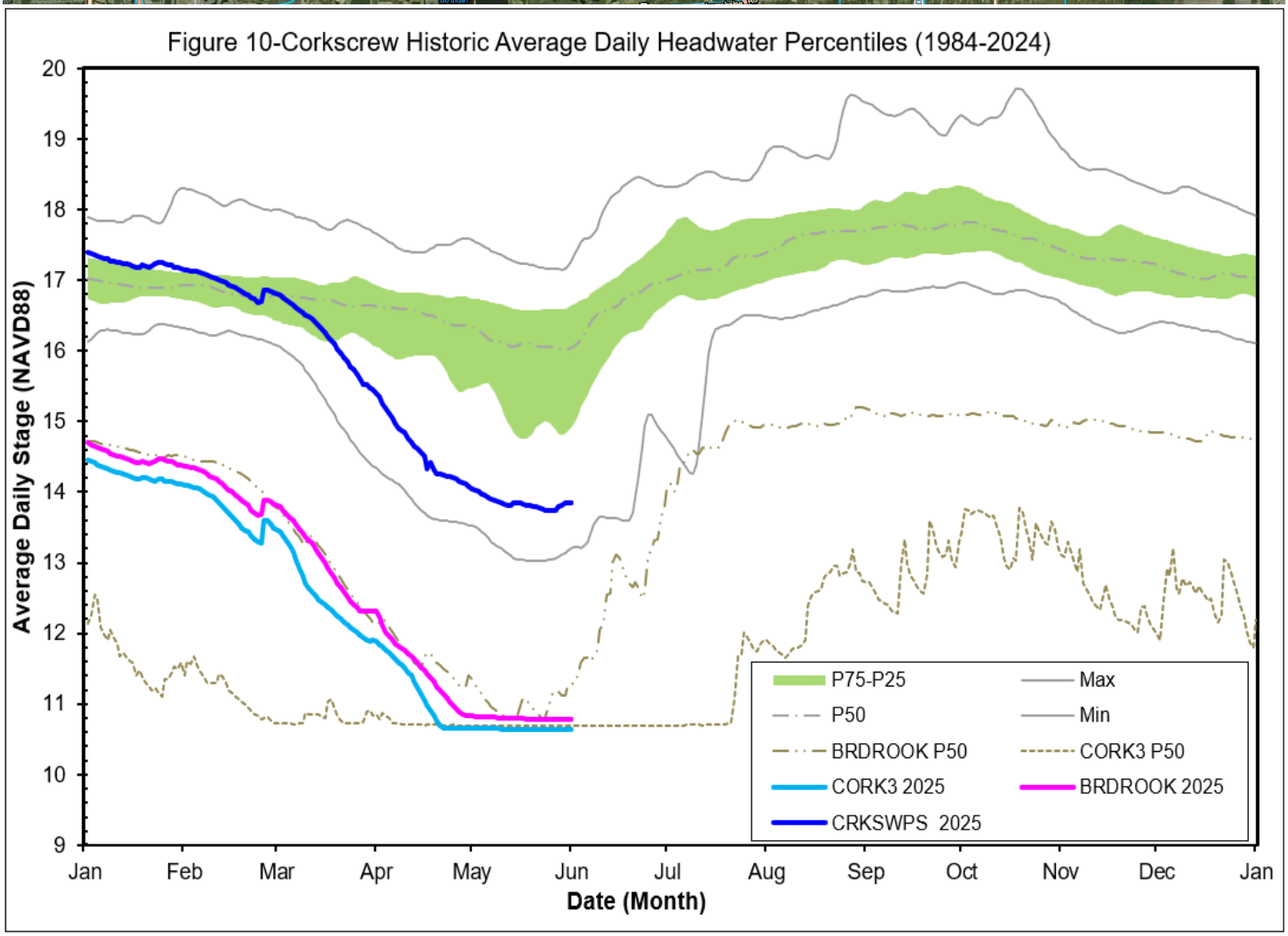
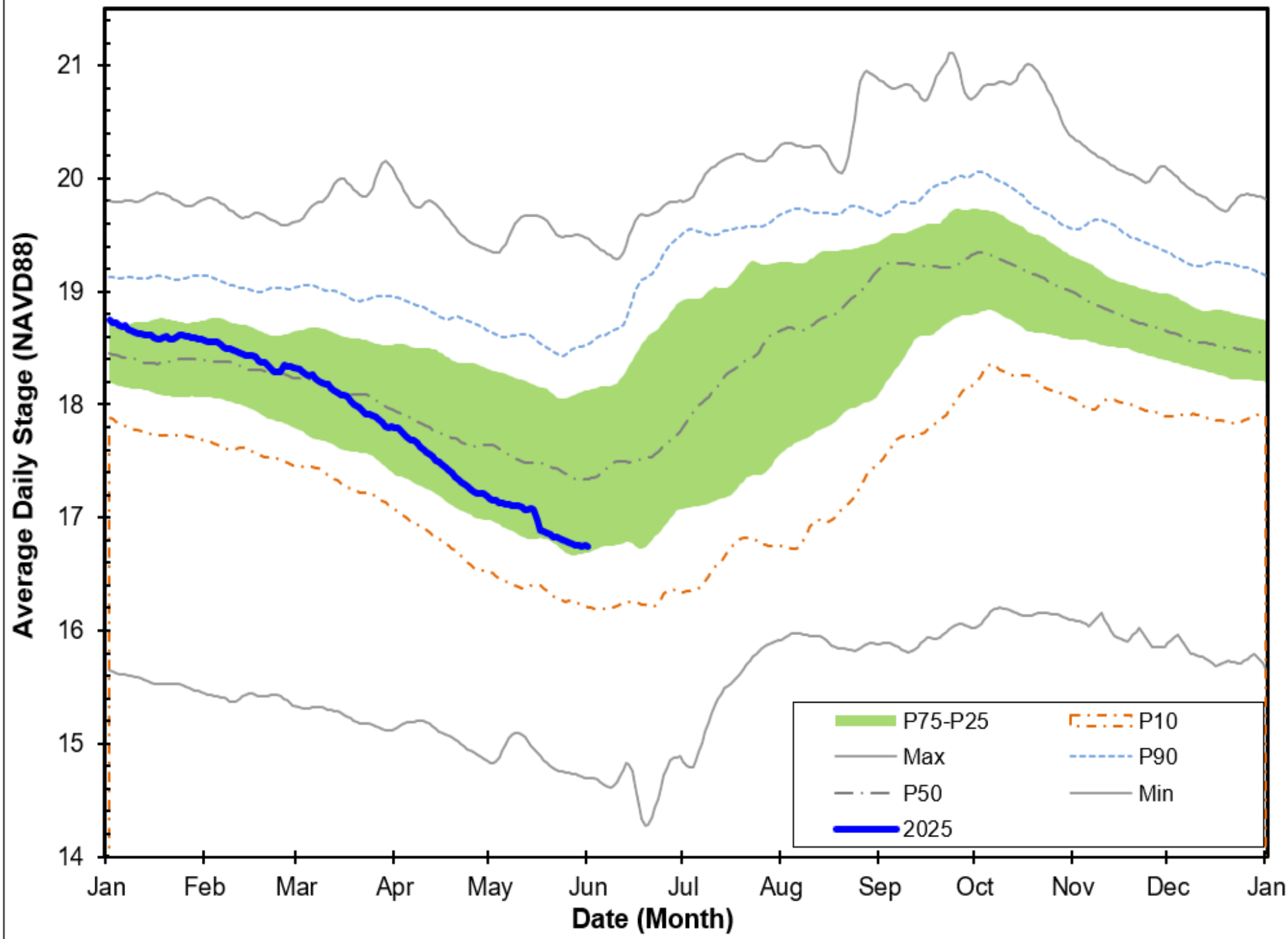


Figure 11 Lake Trafford Historic Average Daily Headwater Percentiles (1941-2024)



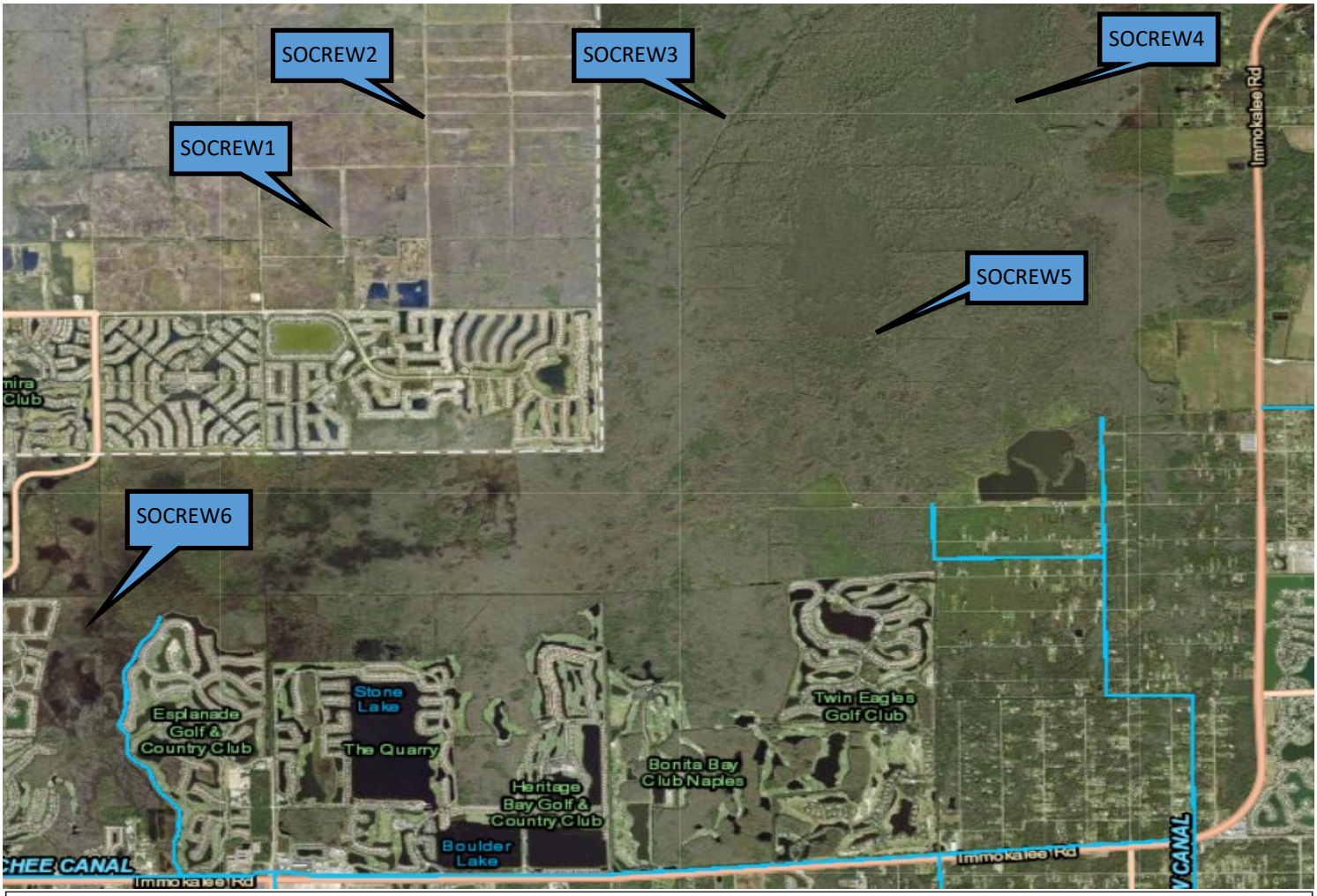
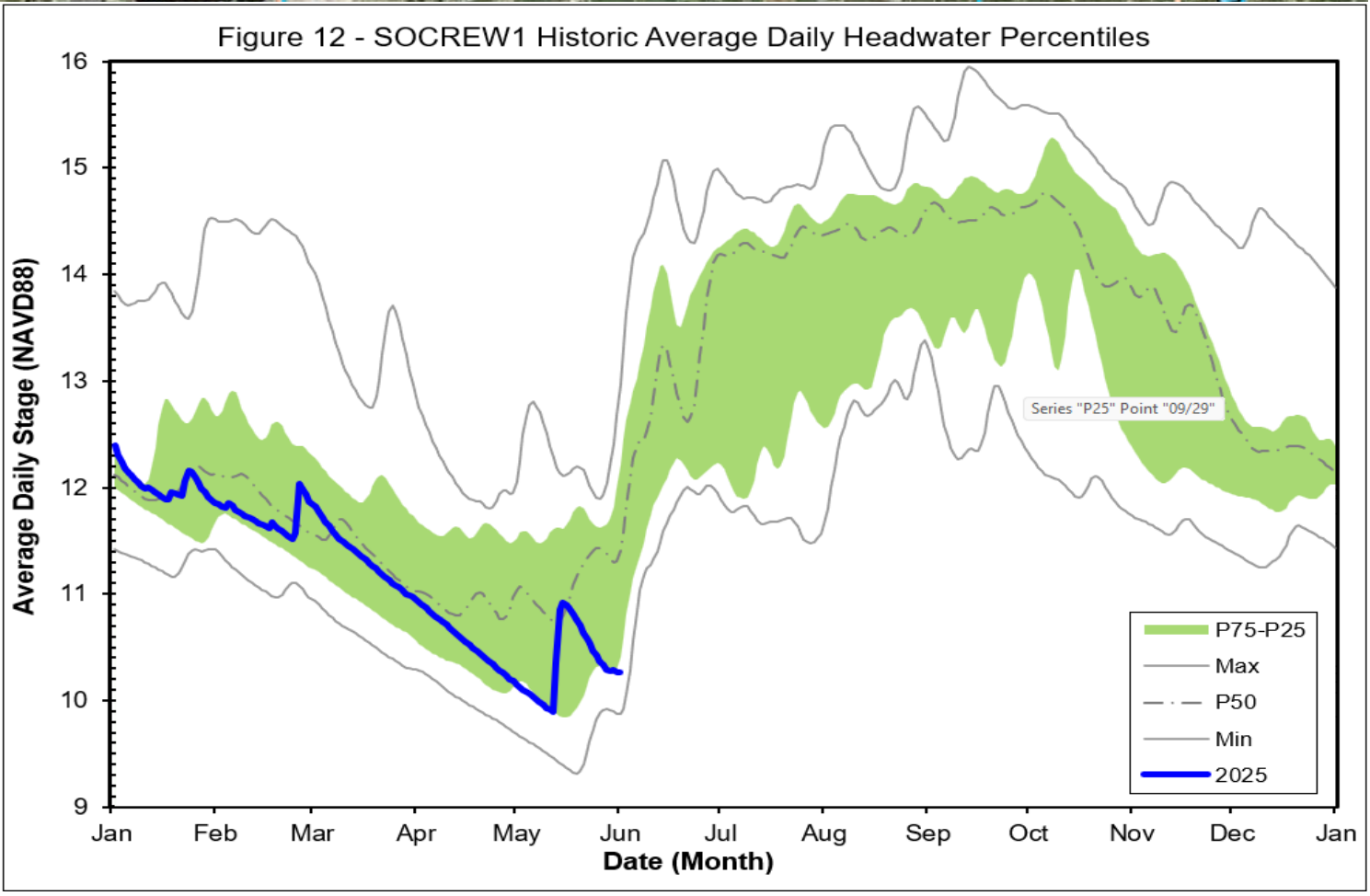


Figure 12 - SOCREW1 Historic Average Daily Headwater Percentiles



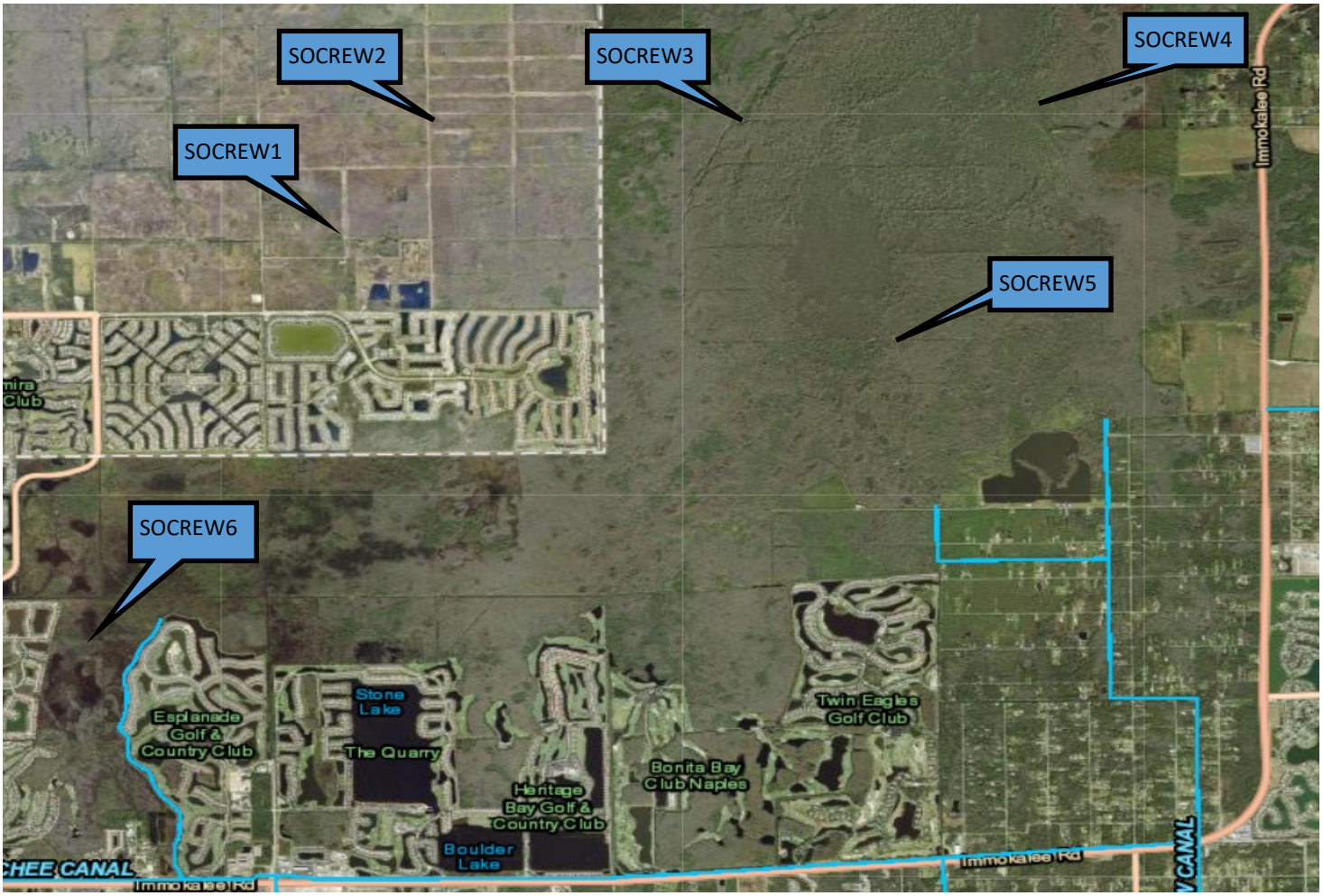


Figure 13 - SOCREW2 Historic Average Daily Headwater Percentiles