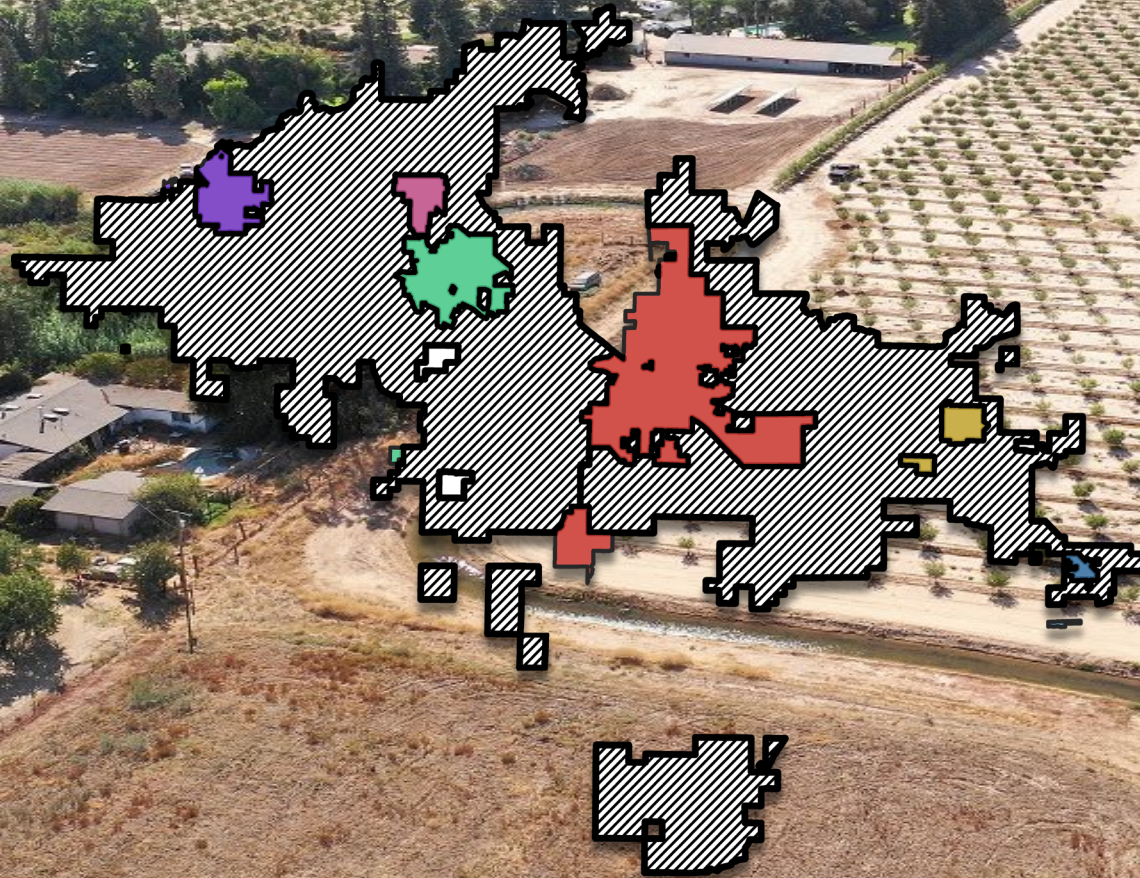


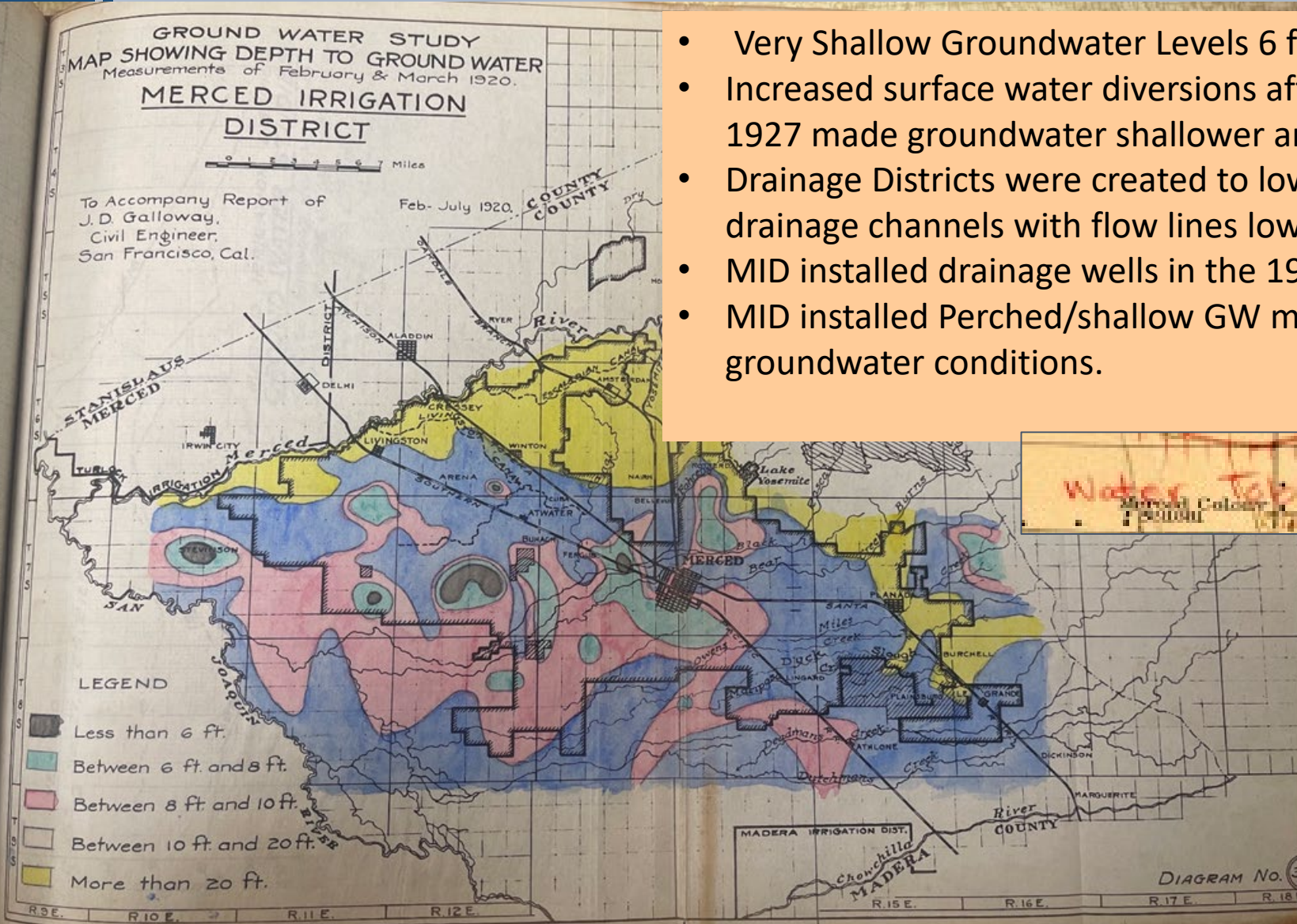
Merced Irrigation-Urban Groundwater Sustainability Agency



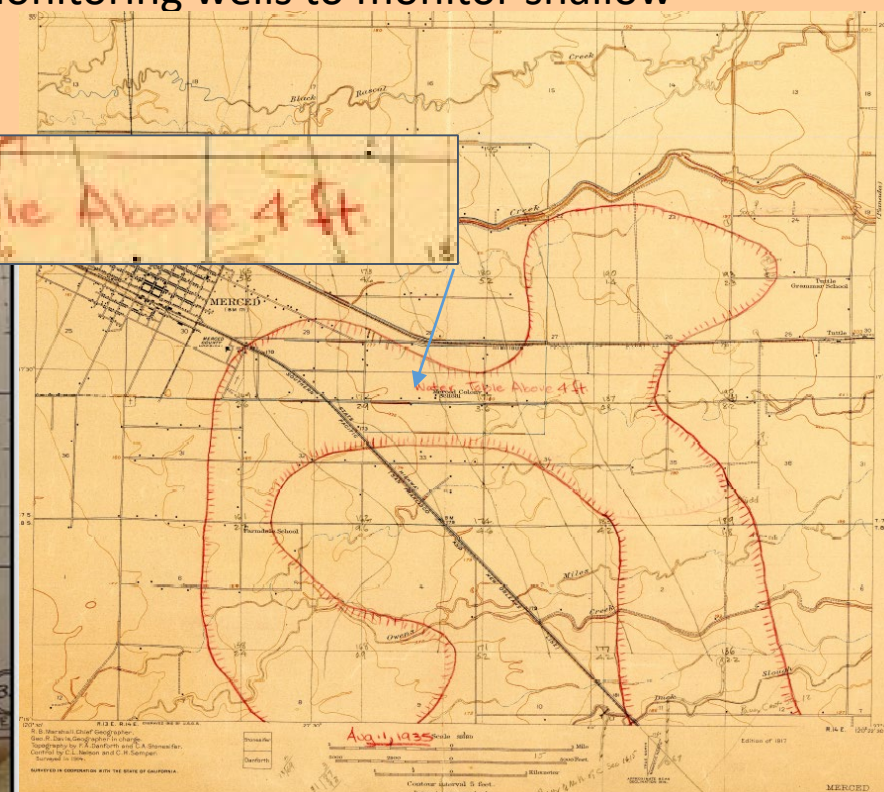
GSA Report
June 1, 2022

Groundwater levels in 1920s

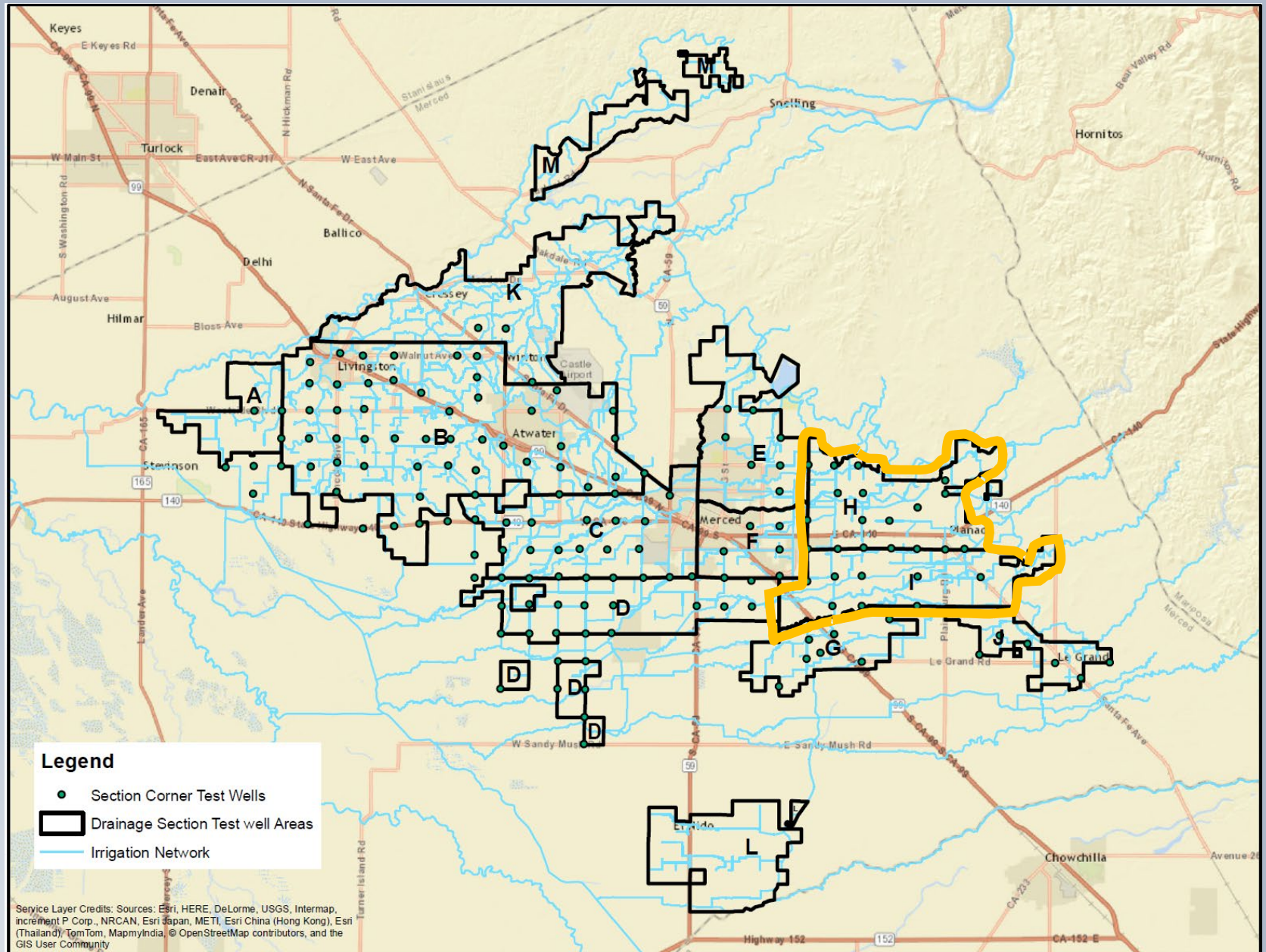
- Very Shallow Groundwater Levels 6 feet to 20 feet for the bulk of MIUGSA
- Increased surface water diversions after the construction of Exchequer Dam in 1927 made groundwater shallower and caused waterlogs.
- Drainage Districts were created to lower groundwater levels by installing drainage channels with flow lines lower than the groundwater levels
- MID installed drainage wells in the 1920s to keep water below crop root zones.
- MID installed Perched/shallow GW monitoring wells to monitor shallow groundwater conditions.



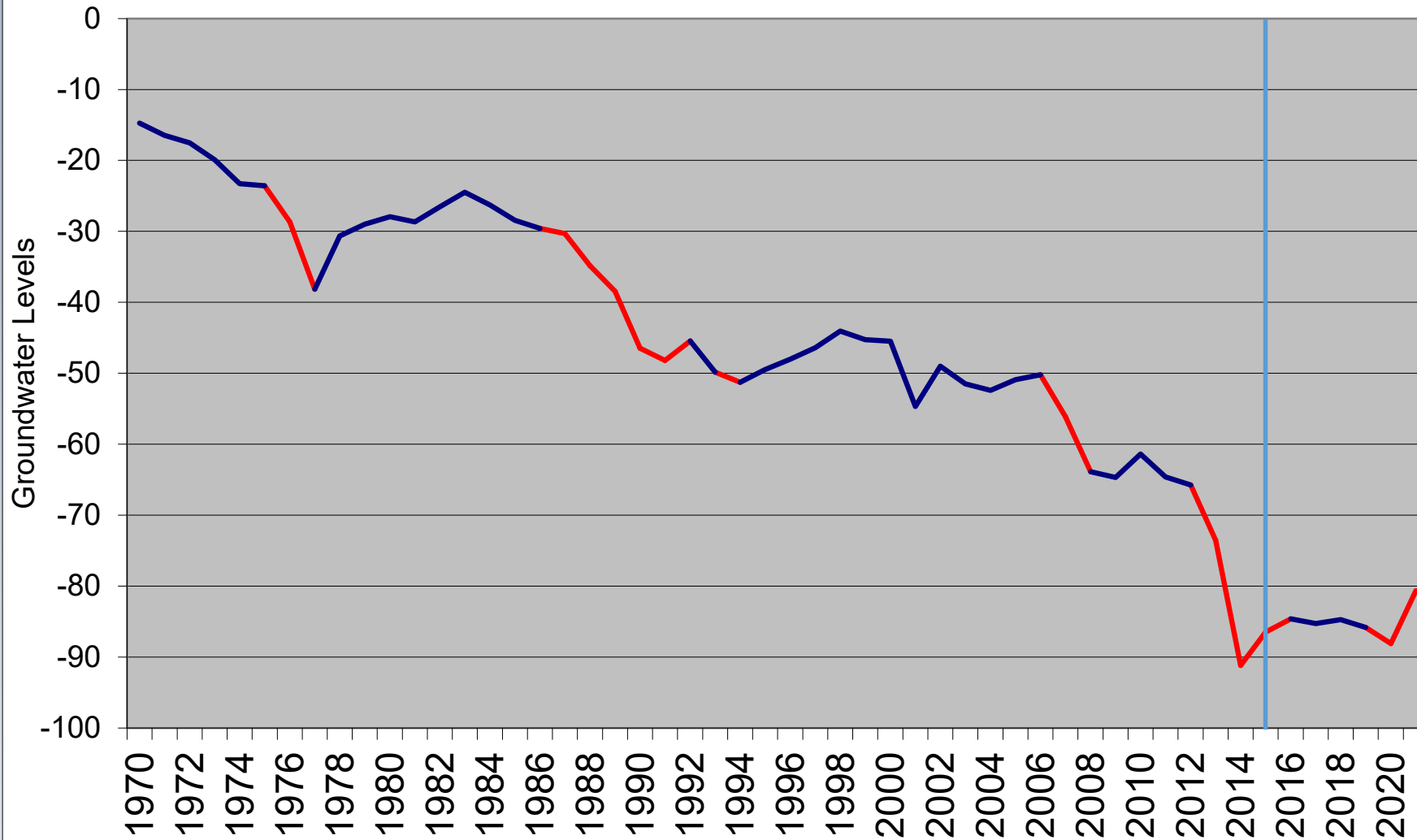
Water Table Above 4 ft



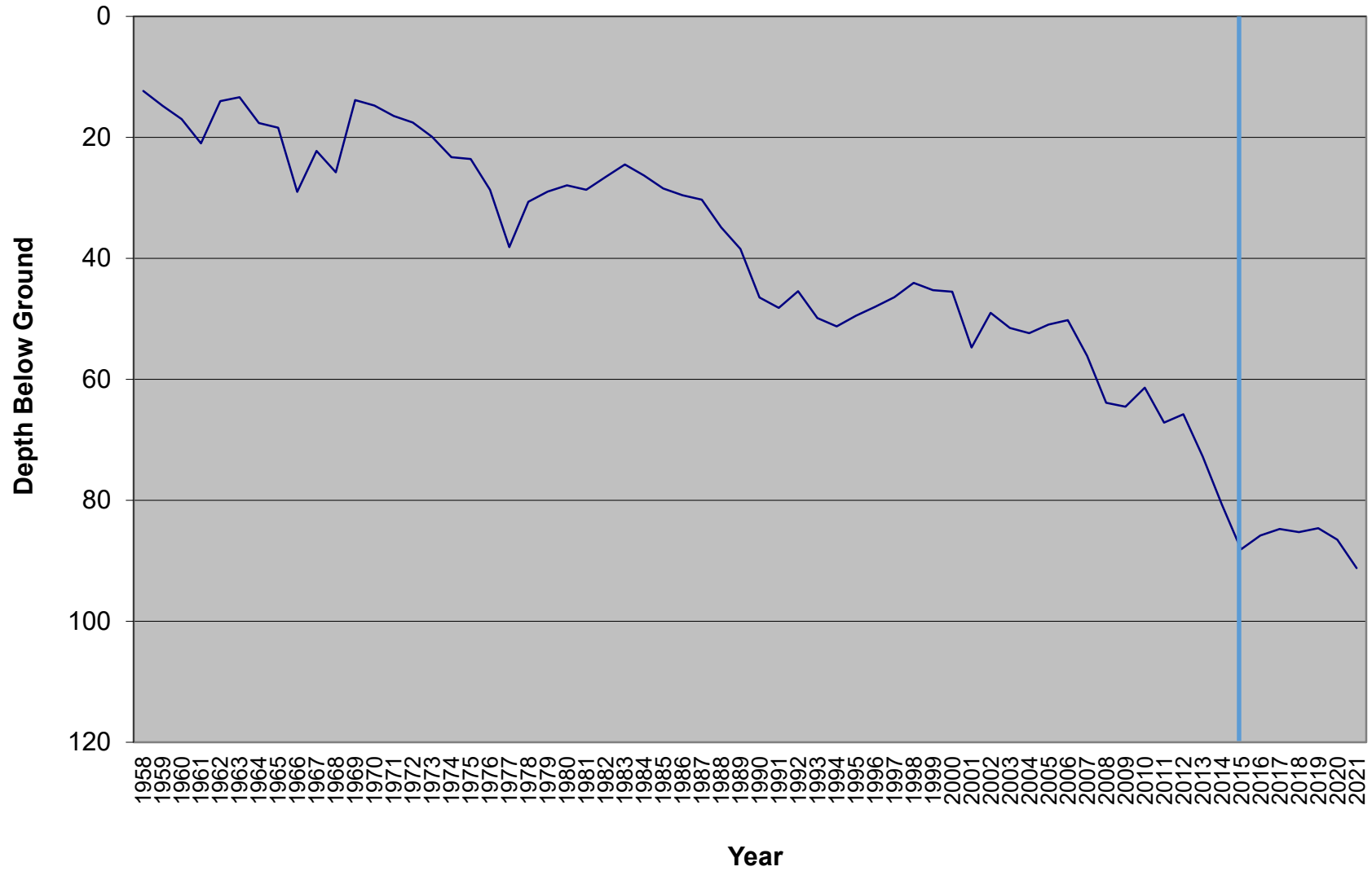
MID Well Areas



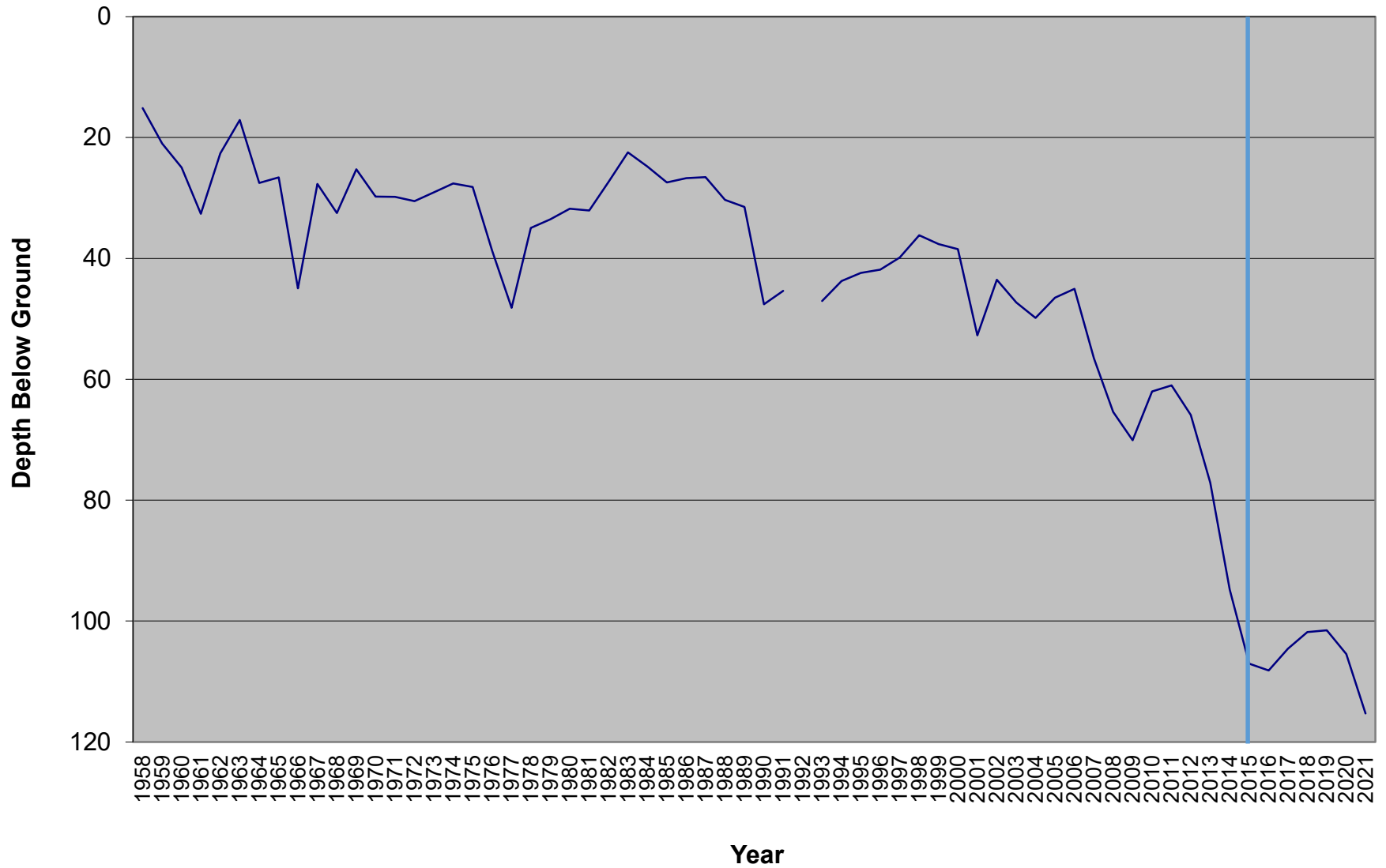
MID Static Groundwater Levels December Average



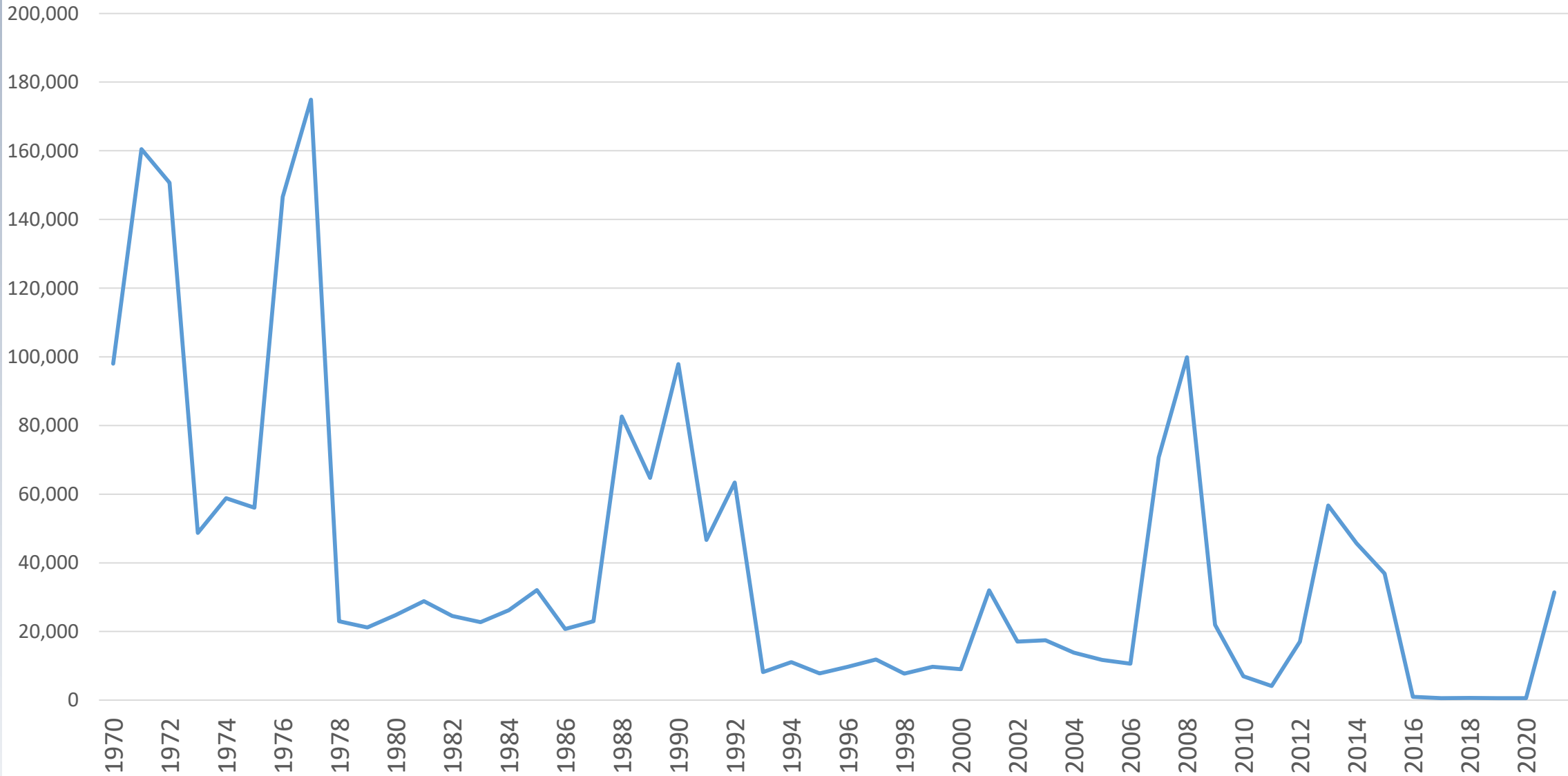
Area H December Static Water Levels 1958 Through 2021



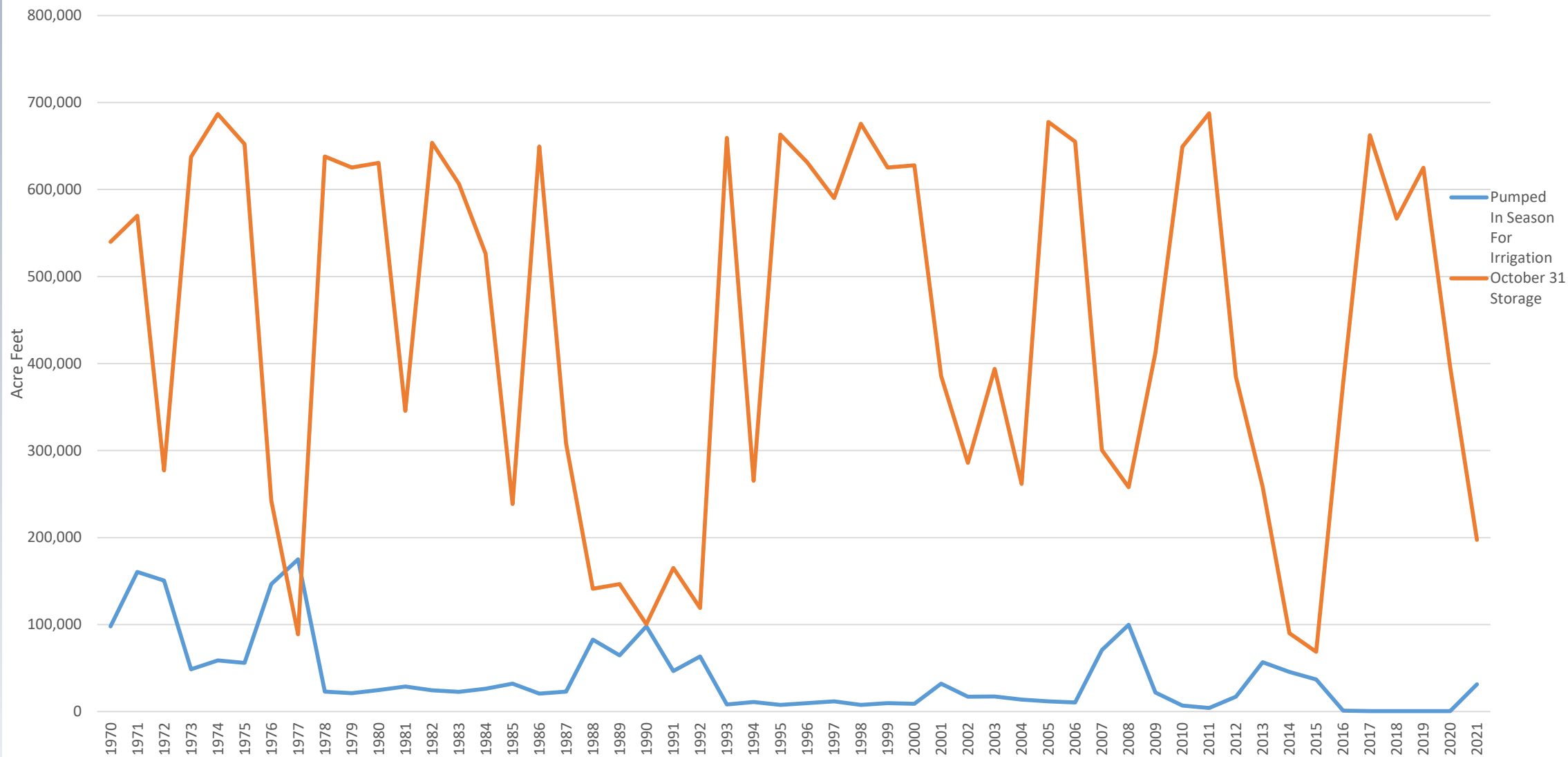
Area I December Static Water Levels 1958 Through 2021



MID Pumped In-Season For Irrigation



MID Pumped In Season vs. October 31 Storage



Allocation Scenario (1.1 AF/Developed Acre)

			WY2016-2021 Total	
Merced Irrigation and Urban GSA	Allocation		1,073,662	
	Developed Supply		726,000	
	Groundwater Use	Exempt	Federal ⁶	0
	Groundwater Use	Appropriative	Ag ^{1,2}	39,200
	Groundwater Use	Appropriative	Urban ^{1,4}	215,800
	Groundwater Use	Overlying	Ag	999,600
	Groundwater Use	Overlying	Urban	49,200
MIUGSA Allocation Balance			495,862	
Merced Subbasin GSA	Allocation		1,009,153	
	Developed Supply		36,000	
	Groundwater Use	Exempt	Federal ⁶	69,500
	Groundwater Use	Appropriative	Ag ^{1,3}	143,300
	Groundwater Use	Appropriative	Urban ¹	0
	Groundwater Use	Overlying	Ag	2,429,300
	Groundwater Use	Overlying	Urban	20,100
MSGSA Allocation Balance			(1,547,547)	
Turner Island GSA	Allocation		58,727	
	Developed Supply		18,000	
	Groundwater Use	Exempt	Federal ⁶	0
	Groundwater Use	Appropriative	Ag ^{1,4}	47,700
	Groundwater Use	Appropriative	Urban ¹	0
	Groundwater Use	Overlying	Ag	25,500
	Groundwater Use	Overlying	Urban	170
TIWDGSA Allocation Balance			3,357	
Merced Subbasin	Allocation		2,141,542	
	Developed Supply		780,000	
	Groundwater Use	Exempt	Federal ⁶	69,500
	Groundwater Use	Appropriative	Ag ^{1,2,3,4}	230,200
	Groundwater Use	Appropriative	Urban ¹	215,800
	Groundwater Use	Overlying	Ag	3,454,400
	Groundwater Use	Overlying	Urban	69,300
Merced Subbasin Allocation Balance			(1,048,158)	

Notes:

- ¹ Appropriative groundwater is defined as pumping owned and operated by an agency and delivered to their customers.
- ² Agricultural appropriative groundwater pumping in MIUGSA includes water produced by MID
- ³ Agricultural appropriative groundwater pumping in MSGSA includes water produced by SWD, MCWD, and LTMWC. Note that TIWD has only provided data for WY 2020 and 2021 and thus is not tabulated for prior years.
- ⁴ Agricultural appropriative groundwater pumping in TIWDGSA includes water produced by TIWD
- ⁵ Urban appropriative groundwater pumping in MIUGSA includes water produced by Merced, Atwater, Livingston, Winton, Planada, Meadowbrook, and Le Grand.
- ⁶ Federal groundwater users are exempt from SGMA regulations and are tabulated separately. In the Merced Subbasin this includes production by the MercedNWR.

MIUGSA's Perspective

- Declines in groundwater levels due to localized overpumping in one area of the basin impacts the entire basin.
- Lower groundwater levels has broad impacts (for example: increased seepage, which impacts surface water supply and compliances)
- SGMA generally sets the acceptable groundwater levels at 2015, allows justification for continued groundwater level decline, and and potentially mitigation for those impacts.
- Choosing groundwater level minimum thresholds lower than 2015 groundwater levels may expose the basin users/GSAs to additional mitigations.

MIUGSA's Perspective (cont'd)

- After reviewing the DWR GSP deficiency letter dated 01/28/2022, and further discussions with DWR, MIUGSA opted to use 2015 groundwater levels as the minimum threshold (2040 goal).
- Since the completion of the GSP the Merced GW Basin lost 414 TAF in cumulative storage at an average of 69 TAF per year.
- As presented above, MIUGSA has been at least a positive contributor to the basin, yet groundwater levels continue to sharply decline.
- Choosing groundwater level minimum thresholds lower than 2015 may cause certain mitigatable actions under SGMA, which MIUGSA must not bear.
- Due to the time limitation for GSP re-submittal, the GSAs are working on acceptable language for the GSP, which would not expose MIUGSA to the liability of mitigation.