Humboldt Community Services District

2024 Annual

Water Supply and Demand

Assessment Report

Prepared for the California Department of Water Resources

By Humboldt Community Services District Staff

Adopted June 25, 2024

EXECUTIVE SUMMARY

The Humboldt Community Services District is not currently experiencing a water shortage. The projected demand over the assessment period, July 1, 2024 through June 30, 2025, is 1,978 Acre Feet (AF) based on the average demand for the previous four years. The projected supply available to the District for distribution is 5,974 AF with 3,901 AF from the Humboldt Bay Municipal Water District (HBMWD), 1,343 AF from City of Eureka (CoE) and 730 AF from District owned groundwater wells drawing from the Eureka Plain Basin. The District is projecting a 202% surplus of supply over projected water demand for the 2024-25 water year. Recharge to the Eureka Plain Basin is estimated at 26,180 Acre Feet per Year (AFY), while documented withdraws are on the order of 6,100 AFY. This results in a surplus recharge of 20,080 AFY. The District is considering developing additional groundwater resources to provide regional water supply resilience and additional capacity for future population growth.

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INTRODUCTION

California Water Code (CWC) states that on or before July 1, 2022, and every year after, each Urban Water Supplier shall prepare an annual assessment of supply and demand and submit an Annual Shortage Report to Department of Water Resources (DWR). The Annual Shortage Report is due by July 1 of every year, as required by Water Code Section 10632.1. Table 1 includes general information about the Humboldt Community Services District Annual Assessment.

Table 1: Annual Assessment Information

Table 1: Information

Type of Supplier (REQUIRED TO CHECK ONE OR BOTH)	
Supplier is a wholesaler	☐
Supplier is a retailer	☑
Year Covered By This Shortage Report (REQUIRED)	
Start: July 1,	2024
End: June 30,	2025
Volume Unit for Reported Supply and Demand (must use same unit throughout)	AF
Supplier's Annual Assessment Planning Cycle (REQUIRED)	
Start Month:	July
End Month:	June
Data Reporting Interval Used:	Monthly (12 data points per year)
Water Supplier's Contact Information (REQUIRED)	
Water Supplier Name:	**Humboldt Community Services District**
Contact Name:	Terrence Williams
Contact Title:	General Manager
Street Address:	5055 Walnut Drive
Zip Code:	95503
Phone Number:	(707)443-4550
Email Address:	twilliams@humboldtcsd.org
Report Preparer's Contact Information (If different from above)	
Preparer's Organization Name:	NA
Preparer's Contact Name:	
Phone Number:	
Email Address:	
Supplier's Water Shortage Contingency Plan	
WSCP Title:	Humboldt Community Services District Water Shortage Contingency Plan
WSCP Adoption Date:	6/22/2021
Other Annual Assessment Related Activities (optional)	
Activity	**Timeline/Outcomes/Links/Notes**
Annual Assessment/Shortage Report Title:	Humboldt Community Services District Annual Water Supply and Demand Assessment 2024
Annual Assessment/Shortage Report Approval Date:	6/25/2024
Other Annual Assessment Related Activities:	NA

The Annual Assessment and associated Annual Shortage Report are to be conducted based on the Supplier's procedures detailed in its adopted Water Shortage Contingency Plan (WSCP). In preparing for each year's Annual Assessment, Suppliers should reference and follow their procedures, which they have developed as part of the most recently adopted WSCP.

CWC states that on or before September 30, 2022, and every year after, DWR shall prepare a summary report to the State Water Resources Control Board on DWR's review of the submitted Annual Assessment results. The DWR report will include water shortage information at the Supplier level, as well as regional and statewide analysis of water conditions. The report will also include information on water shortage response actions taken by Suppliers as a result of their Annual Assessments.

The Humboldt Community Services District (HCSD, District) does not rely on water imported from the State Water Project or the Bureau of Reclamation and is not currently experiencing a water shortage. This report titled Humboldt Community Services District 2024 Annual Water Supply and Demand Assessment Report satisfies the reporting requirements of the "Annual Shortage Report" but is not titled that way because the District is not experiencing a shortage.

BACKGROUND

The Humboldt Community Services District (District or HCSD) was formed in 1952 to provide water and wastewater services to the unincorporated areas of Eureka, CA. Since that time, the District has expanded the service area to include Myrtletown, Pine Hill, Humboldt Hill, Fields Landing, King Salmon, and Freshwater. Expansion was accomplished both by District construction of facilities, such as in Myrtletown and Cutten, and by acquisition of existing facilities such as the Pialorsi water system in Humboldt Hill and the County Service Area No. 3 in King Salmon and Fields Landing.

The District currently supplies drinking water to a population of 19,778. The annual water demand by District ratepayers is currently about 2,000 acre-feet/year (AFY). This is less than 100 gallons per capita per day (GPCPD) including residential, commercial, institutional and agricultural/irrigation uses.

WATER

The District's water distribution and storage system is complex, consisting of twenty-two (22) different pressure zones, ten (10) water storage tanks containing 5.0 million gallons of storage capacity, and twelve (12) water booster pumping stations. The system covers 15 square miles in hilly terrain.

Sources

Water supply is furnished by three sources. Approximately one half of the District's consumption is purchased/imported directly from the Humboldt Bay Municipal Water District (HBMWD) through the Truesdale booster pump station; one quarter is purchased from the City of Eureka (CoE), who purchases it from HBMWD through the Hubbard and Harris booster pump station; the final quarter is pumped from District owned wells located in the Humboldt Hill area that draw off of the Eureka Plain Groundwater Basin near the Elk River.

These three water sources supply the three major service areas of the District. Hubbard and Harris pump station (water purchased from CoE) supplies the northern area of Myrtletown, Mitchell Road, Freshwater and Pigeon Point (Freshwater/Mitchell Road Zone). Truesdale pump station (water purchased from HBMWD) supplies the central areas of Cutten, Rosewood, Pine Hill, Ridgewood and Elk River (Ridgewood Zone). District well water supplies the southern area of Humboldt Hill, King Salmon, Fields Landing and College of the Redwoods (Humboldt Hill Zone).

Water can be moved between these zones through transmission lines and interties. Doing so requires additional pumping and so it is inefficient and less cost effective.

Demands

The District monitors and records the volume of water purchased/imported from HBMWD and CoE as well as the volume of water pumped from groundwater wells each month. This data is used for the monthly former DRINC (Drinking Water Information Clearinghouse) and current SAFER (Safe and Affordable Funding for Equity and Resilience) reporting and annual eAR (Electronic Annual Report) reporting to the State Water Resources Control Board. Four years of this data was used to develop the projected water demand for the 2024 Annual Assessment. Monthly data over the most recent four-year period was averaged to define the unconstrained monthly demand. This produces a conservative estimate of demand because, over the past four years, demand has been trending down. The total volume of water produced during the 12 months preceding the assessment period (1,861 AF) is 11.3% less than for the 12-month period from four years prior (2,098 AF). Table 2 summarizes the projected monthly water demands of the District.

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Use Type	Start Year:	2024	Volumetric Unit Used:						AF						
Drop down list May select each use multiple times. These are the only Use Types that will be recognized by the WUEdata online submittal tool. (Add additional rows as needed)	Additional Description (as needed)	Level of Treatmen for Non-Potable Supplies Drop down list	Projected Water Demands - Volume[2]												
			Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun[3]	Total by Water Demand Type
Demands Served by Potable Supplies															
All Demands			197	207	183	162	158	143	159	136	149	146	167	171	1,978
TOTAL BY MONTH (POTABLE)			197	207	183	162	158	143	159	136	149	146	167	171	1,978
Demands Served by Non-Potable Supplies															
TOTAL BY MONTH (NON-POTABLE)			0	0	0	0	0	0	0	0	0	0	0	0	0
NOTES															

[1]Projections are based on best available data at time of submitting the report and actual demand volumes could be different due to many factors.

[2]Units of measure (AF, CCF, MG) must remain consistent.

[3]When optional monthly volumes aren't provided, please enter yearly volumes in the June column (Jun[3]).

Supplies

The District purchases/imports water from two agencies, HBMWD and CoE; and pumps groundwater through District owned wells. The water purchased from HBMWD and CoE is sourced from an aquifer below the Mad River through Ranney Collectors owned and operated by HBMWD. Through contracts, HCSD is allocated 2.9 million-gallons per day (MGD) from HBMWD directly and an additional 1 MGD from CoE which is sourced from HBMWD. On average, the District sources 0.45 MGD from groundwater with a peak month average daily demand of 0.64 MGD.

Humboldt Bay Municipal Water District

HBMWD pumps groundwater from an aquifer below the Mad River north of Arcata CA. HBMWD supplies water to seven municipal customers including City of Arcata, City of Blue Lake, City of Eureka, Fieldbrook CSD, Humboldt CSD, Manila CSD, and McKinleyville CSD and about 600 retail water customers. HBMWD has the capacity to supply 20 MGD of treated drinking water. The daily allocation of water to the seven municipal customers totals 17 MGD and includes 2.9 MGD to HCSD.

HBMWD delivers water to HCSD through a transmission line that runs down the Samoa Peninsula and crosses Humboldt Bay to terminate at the HCSD pumping facility at 1930 Truesdale Street in Eureka, CA. HBMWD water is then pumped to the HCSD storage tanks at the District corporation yard at 5055 Walnut Drive in Cutten, CA.

HBMWD maintains their own Urban Water Management Plan and associated WSCP that can be referenced at the following web location (https://www.hbmwd.com/files/03d84a5c2/UWMP-2020+final.pdf). HBMWD's WSCP indicates that they will use the Ruth Lake Reservoir storage volume and the time of year to determine their shortage stage. On June 2, 2024 HBMWD Ruth Lake Reservoir was at 95% of capacity. This corresponds to a shortage action level of Stage 1, no shortage (HBMWD lists action Stages 1-5, HBMWD Stage 1 corresponds to Annual Water Supply and Demand Assessment (AWSDA) Shortage Level 0, no shortage).

Based on this information, HCSD can access 2.9 MGD from HBMWD through the Truesdale Pumping Station. 2.9 MGD corresponds to 3901.1 AFY. HCSD's total annual demand is about 2000 AFY.

City of Eureka

HCSD purchases/imports water from CoE. CoE is one of HBMWD's municipal customers with a 7 MGD allocation. That allocation is delivered to CoE through a City owned transmission line that originates at the HBMWD turbidity reduction facility in Essex, CA and terminates at the City's primary storage reservoir. The transmission line passes a City/District owned pumping station at the corner of Hubbard Lane and Harris Street in Eureka CA (Hubbard Lane pumping Station). The Hubbard Lane Pumping Station taps into the City's transmission line. Through contract, the District can access up to 1 MGD of the City's water allocation through this pumping station. As described previously, HBMWD is at AWSDA Shortage Level 0, no shortage so HCSD can access 1 MGD through the Hubbard Lane pumping station. 1 MGD corresponds to 1343.2 AFY.

Groundwater Basin

The District maintains two active well sites at the base of Humboldt Hill, near the Elk River. Over the past four years, the District wells have supplied an average of 0.45 MGD with a peak month average daily pumping of 0.64 MGD. This translates to 42.3 acre-feet per month average and 60 acre-feet per

month peak. These units were used to establish the peak month volume for groundwater withdrawal. Extending the peak month withdrawal over 12 months results in 730 AFY.

The District's groundwater is drawn from the Eureka Plain Basin (DWR Groundwater Basin Number 1-9). This basin covers 37,400 acres and is bounded by the Little Salmon fault to the south, the Freshwater Fault to the north, Wildcat Series deposits to the east and Humboldt Bay to the west. Precipitation infiltration and seepage from Freshwater Creek, Elk River and Eel River contribute to recharge of the Eureka Plain Basin (DWR 2020).

The California Department of Water Resources (DWR) performed an extraction survey of the Eureka Plain Basin in 1996 and determined that agricultural and municipal/industrial extraction are 4,800 and 1,300 AFY respectively (DWR 2020). HCSD has been pumping from wells in the Eureka Plain Basin since the 1950's so those extraction volumes were captured in that survey.

The Eureka Plain Basin has not been identified as an impaired basin so extensive studies regarding recharge and storage have not been developed. The adjacent Eel River Valley Groundwater Basin has been thoroughly studied and has hydrologic similarities to the Eureka Plain Basin including precipitation, soil formations, surface topography, ocean boundary and year-round surface water flow. The Eel River Valley Groundwater Sustainability Plan was adopted on January 29, 2022 by the Humboldt County Board of Supervisors (Humboldt County 2022). Based on data from the Eel River Valley Groundwater Sustainability Plan, the authors assume that on average, 21% of precipitation infiltrates into the Eel River Valley Groundwater Basin.

Considering the hydrologic similarity and proximity of the two basins, the assumption that 21% of annual precipitation infiltrates into the Eureka Plain Basin will be used for the purposes of this report. Using an annual average of 40 inches of precipitation and a surface area of 37,400 acres and the assumed 21% infiltration rate implies that 26,180 AFY percolates into the basin and becomes groundwater. This is a conservative estimate of recharge because seepage from the rivers is not accounted for. The Eel River Valley Groundwater Sustainability Plan indicates that river to groundwater seepage is the largest contributor to recharge.

Assuming that pumping from the Eureka Plain Basin has not increased significantly since the 1996 survey (6,100 AFY) and that recharge to the basin is at least 26,180 AFY, there is substantial groundwater resources available to be developed; at least 20,080 AFY on average.

District Wells

The District adopted the 2020 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) on June 22, 2021. Section 3.2 of the District's WSCP describes a process by which the District will evaluate the capacity of the Eureka Plain Basin to sustain extraction at the levels planned by the District for the Annual Assessment. Section 3.2 of the District's WSCP is included for reference below:

> ***3.2 Data and Methodologies***
>
> *HCSD will prepare Annual Water Supply and Demand Assessments utilizing the following data:*
>
> • *Precipitation data from Eureka*
>
> • *Groundwater elevation data from CASGEM wells within the Eureka Plain Groundwater Basin.*

- *Projected current year unconstrained demand.*
- *Projected current year available supply.*
- *HBMWD Annual Water Supply and Assessment*

The above data will be evaluated with similar methodologies and added to the analysis of water supply reliability contained in Section 2 of this plan.

Section 2 of the District's WSCP describes the process for determining the overall, long-term reliability of the District's groundwater resources. The data used for this analysis is available from the California Statewide Groundwater Elevation Monitoring (CASGEM) online system.

That analysis includes water surface elevation data for two residential water wells that have significant historical data. The wells are not District owned and were selected because they are located in the upper portion of the Eureka Plain Basin so their water surface levels would be susceptible to variation based on precipitation recharge or lack thereof. Despite the extended historical data for these two wells, recent water surface elevation data is spotty or not available at all. The reason for the lack of data cited by CASGEM is that residential wells were not monitored during the COVID emergency.

The CASGEM residential wells used to analyze groundwater reliability are the Clover Well at 40.7221, -124.1867 (CASGEM ID 04n01w21b001h) and the Windmill Well at 40.7581, -124.0639 (CASGEM ID 04n01e03m001h). The Clover Well has a ground surface elevation of 83 feet above mean sea level and the Windmill Well has a ground surface elevation of 73 feet above mean sea level. These wells were named by District staff based on the Humboldt County road names at their respective locations. Note: According to CASGEM, the Windmill Well was destroyed in 2017 and no further data will be available from that location.

The District has decided to correlate data from the CASGEM database to data collected from District owned wells and make the Annual Assessment based on current data collected from District owned wells.

The District currently maintains two active production wells that draw from the Eureka Plain Basin. These are the Spruce Point Well located at 40.7433, -124.1993 (CA1210009_006_006) and the South Bay Well located at 40.7369, -124.2086 (CA1210009_013_013). The District is also in the process of abandoning/destroying a third production well whose casing recently failed; the Princeton Well is located at 40.7361, -124.2037 (CA1210009-007). Current water surface elevation measurements were taken in the spring of 2023. Some historic data is also available for these wells.

The Princeton Well was constructed in June of 1978 and has a ground surface elevation of 14 feet above mean sea level. Precise measurements for historic water surface elevation are limited for this location. Operator notes indicate that this well continuously produced artesian flow from 1988 to present. This data indicates that the water surface elevation was greater than 14 feet above mean sea level. A precise measurement of the water surface elevation was recorded for the Princeton Well in 2022, 2023 and 2024 using a flexible clear tube connected to the well's bypass plumbing while there was artesian flow from the well. The water surface elevation recorded on March 24, 2024 was 14.33 feet above mean sea level.

The South Bay Well was constructed in August of 2018 and has a ground surface elevation of 10 feet above mean sea level. Operator notes indicate that this well continuously produced artesian flow from

2018 to present. This data indicates that the water surface elevation is greater than 10 feet above mean sea level. A precise measurement of the water surface elevation was recorded for the South Bay Well in 2022, 2023 and 2024 using a flexible clear tube connected to the well's bypass plumbing while there was artesian flow from the well. The water surface elevation recorded on March 25, 2024 was 15.91 feet above mean sea level.

The District maintained a second well on the same parcel as the South Bay Well that was destroyed in June of 2018 (CA1210009-004). This well was constructed in August of 1988. Operator notes indicate that this well continuously produced artesian flow between 1988 and 2014. This well was taken out of service and operator records ceased due to deteriorating water quality. The water quality issues were determined to be due to surface interaction because of a failed well seal. The artesian flow data indicates that the water surface elevation was greater than 10 feet above mean sea level between 1988 and 2014.

The Spruce Point Well was constructed on July 11, 1988 and has a ground surface elevation of 35 feet above mean sea level. The District does have some water surface elevation data for this well. In July of 1988, the water surface elevation was 15.5 feet above mean sea level. On April 19, 2012, the water surface elevation was 17.5 feet above mean sea level. On May 16, 2023, the water surface elevation was 15 feet above mean sea level. Additionally, water surface elevation has been recorded in 2022, 2023 and 2024. On March 25, 2024 the water surface elevation in the Spruce Point Well was 14.1 feet above mean sea level.

Figure 1 summarizes the available data for the Eureka Plain Basin between 1985 and 2023. The data includes measured water surface as obtained from the CASGEM online system for spring and fall recordings for the Windmill Well and Clover Well. Also included is measured water surface elevation data for the District's Spruce Point Well. Additionally, estimated and measured data is shown for the District's South Bay and Princeton Wells (ground surface elevation of 10 feet and 14 feet respectively were used to quantify operator notes indicating that the wells showed artesian flow). Precipitation data is also shown as recorded on the NOAA website. This data is shown as water year (October through September) and as calendar year. Finally, the driest year is indicated with a vertical red line (2013) and the driest five-year period is indicated with a vertical red field (1987 to 1992).

Based on water surface elevation measurements taken between 1985 and 2023, there have been no appreciable changes in water depth. Groundwater elevations in the wells are consistent and have not been significantly influenced by climatic variation (precipitation). Based on this information, the water produced from the HCSD groundwater wells is very reliable and not susceptible to drought conditions.

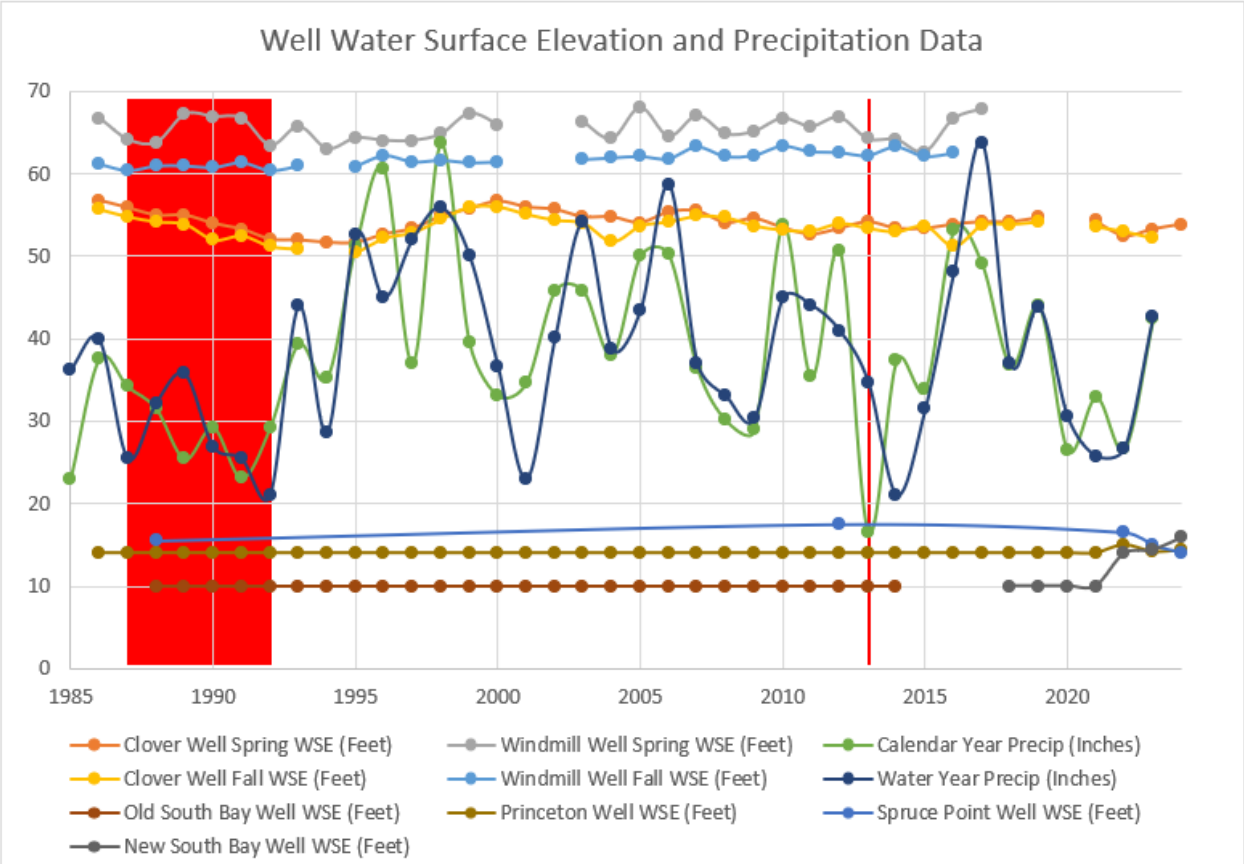

Figure 1: Water surface elevation and precipitation data for the Eureka Plain Basin between 1985 and 2024

Figure 2 shows an area map that includes a portion of the Eureka Plain Basin. The map was originally published in a document titled "Groundwater Conditions in the Eureka Area, Humboldt County, California, 1975" published by the US Geological Survey and developed in cooperation with the Humboldt County Department of Public Works (USGS, 1975). The approximate locations of the District's production and monitoring wells are shown and called out (South Bay, Princeton, Spruce Point, Clover, and Windmill). The purpose of this figure is to corroborate the water surface elevations recorded for the period between 1985 and 2023 and shown in Figure 1. Figure 2 shows water surface elevation contours in the vicinity of the City of Eureka at the edge of Humboldt Bay as measured in 1975 with similar values to what was measured between 1985 and 2023 in the District's production wells nearby.

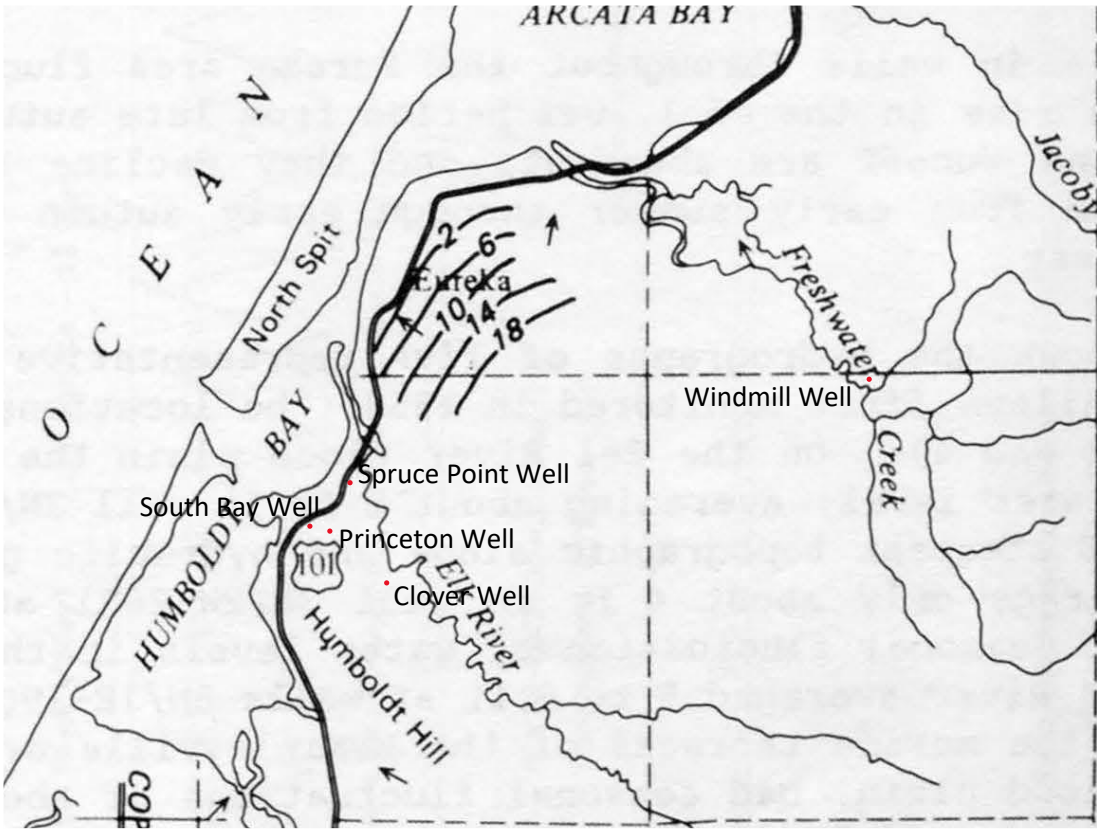

Figure 2: Clipped image of a map taken from "Groundwater Conditions in the Eureka Area, Humboldt County, California, 1975" Includes approximate locations of District production wells and local CASGEM monioring wells (USGS, 1975).

Supply Summary

During the assessment period, July 1, 2024 through June 30, 2025, the District can access 5244 AF though purchase/import from HBMWD and CoE. The District can also pump 730 AF from groundwater wells in the Eureka Plain Basin. The total water available to the District for the assessment period is 5974 AF. Table 3 summarizes water supplies available to the District during the assessment period.

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Table 3 Retail: Water Supplies[1]

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Water Supply	Start Year:	2024				Volumetric Unit Used:				AF						
Drop down list May select each use multiple times. These are the only Use Types that will be recognized by the WUEdata online submittal tool. (Add additional rows as needed)	Additional Detail on Water Supply	Projected Water Supplies - Volume[2]													Water Quality Drop Down List	Total Right or Safe Yield * (optional)
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun[3]	Total by Water Demand Type		
Potable Supplies																
Purchased/Imported Water	HBMWD	331.33	331.33	320.64	331.33	320.64	331.33	331.33	299.264	331.33	320.64	331.33	320.64	3,901		
Purchased/Imported Water	COE	114.08	114.08	110.4	114.08	110.4	114.08	114.08	103.04	114.08	110.4	114.08	110.4	1,343		
Groundwater (not desal.)	HCSD Sources	62	62	60	62	60	62	62	56	62	60	62	60	730		
TOTAL BY MONTH (POTABLE)		**507.41**	**507.41**	**491.04**	**507.41**	**491.04**	**507.41**	**507.41**	**458.304**	**507.41**	**491.04**	**507.41**	**491.04**	5,974		0
Non-Potable Supplies																
TOTAL BY MONTH (NON-POTABLE)		0	0	0	0	0	0	0	0	0	0	0	0	0		0
NOTES																

[1]Projections are based on best available data at time of submitting the report and actual demand volumes could be different due to many factors.

[2]Units of measure (AF, CCF, MG) must remain consistent.

[3]When optional monthly volumes aren't provided, please enter yearly volumes in the June column (Jun[3]).

RESULTS AND CONCLUSIONS

Water supply available to the District far exceeds expected demands for the 2024-25 water supply and demand assessment period. Table 4P shows the District's potable water shortage assessment summary for 2024. The projected monthly surplus of potable water available to the District for distribution ranges from 145% in August 2024 to 255% in December 2024. Over the 12-month assessment period, the District projects 202% potable water surplus. The District does not supply non-potable water as reflected in Table 4NP (below Table 4P).

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Table 4(P): Potable Water Shortage Assessment[1]	Start Year:	2024				Volumetric Unit Used[2]:						AF	
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun[3]	Total
Potable Supplies													
Anticipated Unconstrained Demand	197	207	183	162	158	143	159	136	149	146	167	171	1,978
Anticipated Total Water Supply	507.41	507.41	491.04	507.41	491.04	507.41	507.41	458.3	507.41	491.04	507.41	491.04	5,974
Surplus/Shortage w/o WSCP Action	310.41	300.41	308.04	345.41	333.04	364.41	348.41	322.3	358.41	345.04	340.41	320.04	3,996
% Surplus/Shortage w/o WSCP Action	158%	145%	168%	213%	211%	255%	219%	237%	241%	236%	204%	187%	202%
State Standard Shortage Level	0	0	0	0	0	0	0	0	0	0	0	0	0
Planned WSCP Actions													
Benefit from WSCP: Supply Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0
Benefit from WSCP: Demand Reduction	0	0	0	0	0	0	0	0	0	0	0	0	0
Revised Surplus/Shortage with WSCP	310.41	300.41	308.04	345.41	333.04	364.41	348.41	322.3	358.41	345.04	340.41	320.04	3,996
% Revised Surplus/Shortage with WSCP	158%	145%	168%	213%	211%	255%	219%	237%	241%	236%	204%	187%	202%

Table 4(NP): Non-Potable Water Shortage Assessment[1]	Start Year:	2024				Volumetric Unit Used[2]:						AF	
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun[3]	Total
Non-Potable Supplies													
Anticipated Unconstrained Demand													0
Anticipated Total Water Supply													0
Surplus/Shortage w/o WSCP Action	0	0	0	0	0	0	0	0	0	0	0	0	0
% Surplus/Shortage w/o WSCP Action													0%
Planned WSCP Actions													
Benefit from WSCP: Supply Augmentation													0
Benefit from WSCP: Demand Reduction													0
Revised Surplus/Shortage with WSCP	0	0	0	0	0	0	0	0	0	0	0	0	0
% Revised Surplus/Shortage with WSCP													

NOTES

[1]Projections are based on best available data at time of submitting the report and actual demand volumes could be different due to many factors.

[2]Units of measure (AF, CCF, MG) must remain consistent.

[3]When optional monthly volumes aren't provided, please enter yearly volumes in the June column (Jun[3]).

Planned Action

Table 5 summarizes the District's planned conservation efforts (Planned Water Shortage Response Actions). The District maintains a rebate program for rainwater catchment. The program is intended to encourage landscape irrigation efficiency through rainwater catchment and storage.

Table 5 Retail: Actions

Year Covered By This Shortage Report			July 1,	2024	to June 30,	2025
Anticipated Shortage Level Drop Down List of State Standard Levels (1-6) and Level 0 (No Shortage)	ACTIONS: Demand Reduction, Supply Augmentation, and Other Actions. (Drop Down List) These are the only categories that will be accepted by the WUEdata online submital tool. Select those that apply.	Is Action Already Being Implemented? (Y/N)	How much is action going to reduce the shortage gap?		When is shortage response action anticipated to be implemented?	
			Enter Amount	(Drop Down List) Select % or Volume Unit	Start Month	End Month
Add additional rows as needed						
0 (No Shortage)	Provide Rebates for Landscape Irrigation Efficiency	Yes	0	AF	July	June
Notes: (NOTES Section to be used only for clarifying details, and not for listing specific actions. Actions need to entered into rows above.)						

Continued Monitoring

The District's record of groundwater surface elevation data is less than optimal. The reason for this is the abundance of available groundwater. In 70 years of operation, the District has never experienced a water shortage. The District has plans to monitor water surface elevation at all of the production well sites as often as is practical going forward. Since 2022, the District has been recording two water surface elevation measurements each year (spring and fall) for each of the three groundwater wells (South Bay, Spruce Point and Princeton).

Each of the District's production wells include unique challenges. The new South Bay Well will be the easiest to monitor because a data acquisition solution is possible at that location. A pressure transducer has been installed into the South Bay Well that enables the District's SCADA system to record level data continuously. This will allow District staff to monitor static water level, drawdown and recovery rates.

The Princeton well has been taken out of service because of a failed casing. This well is scheduled to be destroyed. A level measurement will be taken at the Princeton Well using the clear stand tube method twice annually until that well is destroyed.

The Spruce Point Well has presented a challenge for regular water surface elevation measurements. The water surface elevation in this well is usually around 20 feet below the ground surface. The well casing has been lined with a smaller diameter stand pipe. The drop pipe outer diameter to well casing inner diameter is tight enough that a well tape cannot be fed into the annular space. In 2022, the Spruce Point Well pump was pulled so that the well could be filmed and a water surface elevation measurement was taken. In 2023, District staff was able to develop a method to make a manual measurement of the water surface elevation without pulling the pump by disassembling the discharge plumbing and feeding a well tape down the discharge pipe in the annular space between the pump drive shaft and the discharge pipe. In the future, the District expects to replace the Spruce Point pump with a submersible unit with a smaller discharge pipe. When the pump is replaced, a sensor will be installed that will be integrated into the District's SCADA system to take automated water surface elevation measurements at the Spruce Point Well.

All data that is recorded in the future will be included in future Annual Assessment reports.

Additional Source Development

Considering the abundance of groundwater in the Eureka Plain Basin, the District plans to develop groundwater resources to augment supply and bolster resiliency. This will provide water security for the District as well as providing a reliable, high quality source of drinking water for future population growth in the region. Developing the District's groundwater resources will also enable the District to provide water to neighboring agencies, like the CoE, in the event of an emergency such as a transmission line failure. The transmission line supplying HBMWD water to HCSD is close to 15 miles long. The transmission line supplying HBMWD water to CoE is about 10 miles long. Both of these lines are susceptible to seismic damage. Local storage and/or supplemental supply will greatly reduce the risk of water outage for both agencies.

The District owns six parcels where wells drawing from the Eureka Plain Basin have served the District in the past. These include the South Bay, Princeton and Spruce Point locations. Additionally, there were production wells on three other District owned properties in the past. These are the Little California Well (40.7658, -124.1713), Meyers Well (40.7592, -124.1778), and Youngers/Pine Hill Well (40.7526, -124.1881).

As previously indicated, the Princeton Well casing has failed and the well is scheduled for destruction. Wells on this parcel have served the District for many years. The current well on that site had a pumping capacity of 100 gallons per minute (GPM). The District is considering developing a production well at that location with similar capacity to the South Bay Well (1,000 to 1,500 GPM).

The Spruce Point well was constructed almost 35 years ago. This well is likely nearing the end of its useful life. A new well will be developed at this location when the current well fails.

The South Bay Well was constructed in 2018 and is currently serving the District reliably.

The District will perform feasibility studies to determine the potential to develop groundwater wells on the other historical District well sites. The expectation is that each of these sites are suitable for wells with similar pumping capacity as the South Bay Well. Provided all six sites are able to support 1,000 GPM well pumps and that interactions between the wells do not affect production, the District would have access to about 5,000 AFY of groundwater at a 50% duty cycle. Considering that a conservative estimate of surplus groundwater recharge into the basin is 20,080 AFY and that the District's current annual demand is 2,000 AFY, this level of development would be suitable to supply regional water resiliency and future growth.

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