

**MCKINLEYVILLE COMMUNITY SERVICES
DISTRICT
2015
URBAN WATER MANAGEMENT PLAN**



July 6, 2016

Approved by MCSD Board of Directors July 6, 2016

Prepared by: MCSD Staff

McKinleyville Community Services District

1656 Sutter Rd.

McKinleyville, CA 95519

Phone (707) 839-3251

Page Left Blank Intentionally

TABLE OF CONTENTS

1. INTRODUCTION AND OVERVIEW	1
1.1. UWMP Organization.....	1
2. PLAN PREPERATION.....	2
2.1. Individual Planning and Compliance.....	2
2.2. Year and Units of Measurement.....	2
2.3. Coordination with Other Agencies and the Community.....	3
3. SYSTEM DESCRIPTION.....	4
3.1. General Description.....	4
3.2. Service Area and Map.....	5
3.3. Service Area Climate.....	5
3.4. Service Area Population and Demographics.....	6
4. SYSTEM WATER USE.....	10
4.1. Recycled versus Potable and Raw Water Demand.....	10
4.2. Water Use by Sector.....	11
4.3. Distribution System Water Losses.....	14
4.4. Estimating Future Water Savings.....	15
4.5. Water Use for Lower Income Households.....	15
5. BASELINES AND TARGETS.....	16
5.1. Updating Calculations from 2010 UWMP.....	16
5.2. Baseline Periods.....	16
5.3. Service Area Population.....	17
5.4. Gross Water Use.....	18
5.5. Baseline Daily Per Capita Water Use.....	18
5.6. 2015 and 2020 Targets.....	20

5.7. 2015 Compliance Daily Per Capita Water Use.....	20
6. SYSTEM SUPPLIES.....	21
6.1. Purchased Water.....	22
6.2. Surface Water.....	22
6.3. Ground Water.....	23
6.4. Stormwater.....	23
6.5. Wastewater and Recycled Water.....	23
6.5.1. Wastewater Collection Within Service Area.....	24
6.5.2. Wastewater Collection Treatment and Disposal.....	24
6.5.3. Recycled Water Beneficial Uses.....	24
6.5.4. Future Recycled Water Use.....	25
6.6. Desalinated Water Opportunities.....	26
6.7. Exchanges and Transfers.....	26
6.8. Future Water Projects.....	26
6.9. Summary of Existing and Planned Sources of Water.....	27
7. WATER SUPPLY RELIABILITY.....	28
7.1. Constraints on Water Sources.....	29
7.2. Reliability by Type of Year.....	30
7.2.1. Average Year.....	30
7.2.2. Single-Dry Year.....	30
7.2.3. Multiple Dry-Year Period.....	31
7.3. Supply and Demand Assessment.....	32
7.4. Regional Supply Reliability.....	32
8. WATER SHORTAGE CONTINGENCY PLANNING.....	33
8.1. Stages of Action.....	34

8.1.1. Monitoring Procedure.....	38
8.2. Prohibition on End Uses.....	38
8.3. Penalties, Charges, Other Enforcement of Prohibitions.....	39
8.4. Consumption Reduction Methods.....	40
8.4.1. Categories of Consumption Methods.....	40
8.5. Determining Water Shortage Reductions.....	41
8.6. Revenue and Expenditure Impacts.....	41
8.7. Resolution or Ordinance.....	42
8.8. Catastrophic Supply Interruption.....	42
8.9. Minimum Supply Next Three Years.....	43
9. DEMAND MANAGEMENT MEASURES.....	45
9.1. Water Waste Prevention Ordinances.....	45
9.1.1. Metering.....	45
9.1.2. Conservation Pricing.....	46
9.1.3. Public Education and Outreach.....	46
9.1.4. Programs to Assess and Manage Distribution System Real Loss.....	47
9.1.5. Water Conservation Program Coordination and Staffing Support.....	47
9.2. Implementation of DMM's Over the past Five Years.....	47
9.3. Planned Implementation to Achieve Water Use Targets.....	48
10. PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION.....	49
10.1. Notice of Public Hearing.....	49
10.2. Public Hearing and Adoption.....	49
10.3. Plan Submittal.....	50
10.4. Public Availability.....	50

FIGURES

Figure 1	MCSD Service Area and Facilities.....	5
Figure 2	Vacant Parcels within MCSD Service Area.....	8

TABLES (Not Including UWMP Standardized Tables)

Table 1	McKinleyville Climate Summary.....	6
Table 2	McKinleyville Housing Numbers and Estimates.....	7
Table 3	MCSD Water Production Reduction.....	29

APPENDICIES

Appendix A	UWMP Standardized Tables
Appendix B	UWMP SBX7-7 Tables
Appendix C	AWWA Water Loss Audit Worksheet
Appendix D	MCSD Water Shortage Contingency Plan
Appendix E	MCSD Ordinance 10
Appendix F	Notices for Public Hearings, and Agency Notifications
Appendix G	MCSD Consumer Confidence Report 2015
Appendix H	MCSD Resolution Adopting Final 2015 UWMP

Page Left Blank Intentionally

ABBREVIATIONS AND ACRONYMS

ADD	Average Daily Demand
AFY	Acre Feet per Year
AWWA	American Water Works Association
CDP	Census Designated Place
CIP	Capital Improvement Plan
CWC	California Water Code
DMM	Demand Management Measures
DOF	Department of Finance
District	McKinleyville Community Services District
DWR	California Department of Water Resources
ERP	Emergency Response Plan
GIS	Geographic Information Services
GPCD	Gallons per Capita per Day
HBMWD	Humboldt Bay Municipal Water District
MCSD	McKinleyville Community Services District
MG	Million Gallons
MGD	Million Gallons per Day
NOAA	National Oceanic Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
PWS	Public Water System
SWRCB	State Water Resources Control Board
UWMP	Urban Water Management Plan
WSCP	Water Shortage Contingency Plan
WWMF	Wastewater Management Facility

1. INTRODUCTION AND OVERVIEW

This Urban Water Management Plan (UWMP) for the McKinleyville Community Services District (MCSD or District) has been prepared in accordance with the California Water Code and California Urban Water Management Planning Act of 1983 (AB 797) (UWMP Act) as amended, including amendments made per the Water Conservation Bill of 2009 (SBX7-7). The overall intent of the UWMP is to provide a framework for long term water planning and to inform the public of long term resource planning that ensures adequate water supplies for existing and future demands.

Since the early 1970s, the District has reliably supplied water to customers throughout McKinleyville, California. The District operates a regional water system and provides treated drinking water at the retail level. The District is a retail water distributor with all water purchased from Humboldt Bay Municipal Water District (HBMWD), the wholesale regional supplier. The District pumps water from the supplier through Ramey Pump Station and delivers water to over 5,500 customers (2015).

The data used for preparing this report comes primarily from the Districts operational records and coordination with other agencies and the regional wholesaler. Current and projected population figures for the McKinleyville service area and Humboldt County are based on data from the Department of Finance (DOF), US Census Bureau and District service records. Other sources of information or data are referenced throughout the document with supporting documents added as appendices at the end.

1.1. UWMP Organization

This plan has been organized into sections and subsections based on the 2015 Urban Water Management Plans Guidebook for Urban Water Supplier published by California Department of Water Resources (DWR). Supporting documents and required tables for individual sections of the plan are included as appendices or are referenced throughout the document with a link to the webpage or document location.

2. PLAN PREPARATION

Tables for Section 2 found in Appendix A:

- 2-1: Public Water System
- 2-2: Plan Identification
- 2-3: Agency Identification
- 2-4: Water Supplier Information Exchange

According to the UWMP Act, all retail water suppliers with more than 3,000 connections or distributing more than 3,000 acre-feet per year (AFY) of water shall complete an UWMP every five years, on years ending in 5 and 0. MCSD operates a Public Water System (PWS), system number 1210016, as a California Special Services District with approximately 5,517 water service connections (2015), therefore, is required to prepare and submit an UWMP. The District's UWMP has been updated from the 2010 version to reflect new regulation and changes to the California Water Code (CWC).

2.1. Individual Planning and Compliance

The MCSD UWMP was developed as an individual plan reporting solely on the MCSD service area. This individual plan addresses all requirements of the CWC. MCSD has attended regular monthly meeting with the regional wholesaler and other suppliers to share information and coordinate the development of individual UWMP's.

2.2. Year and Units of Measurement

All data, numbers, and tables are reported on a calendar year basis and water volume units of measurement are in million gallons (MG). This report includes water use and supply data from calendar year 2015.

2.3. Coordination with Other Agencies and the Community

MCSD has prepared this plan in cooperation with HBMWD, the regional wholesaler, and the other regional suppliers. MCSD receives all water from HBMWD who has assisted all of the municipal agencies in the development and preparation of our Urban Water Management Plans. The HBMWD has hosted several meetings with MCSD and the other municipal agencies to share information and coordinate efforts to complete their respective UWMP's.

MCSD has encouraged public participation throughout the process of the development of the UWMP and will provide time for public review and comment prior to plan adoption by the MCSD Board of Directors. Public hearing notices are in Appendix F.

MCSD has prepared this plan in cooperation with the following agencies and consultants:

- California DWR, agency;
- Humboldt Bay Municipal Water District, regional wholesaler;
- The City of Arcata, regional retailer;
- The City of Eureka, regional retailer;
- Humboldt Community Services District, regional retailer;
- Humboldt County Planning Department, McKinleyville planning authority; and
- Freshwater Environmental Services, consultant.

MCSD provided their wholesaler (HBMWD) with their projected water demand, in five-year increments for 20 years and HBMWD provided MCSD quantification of water supplies available in 5 year increments for 20 years.

3. SYSTEM DESCRIPTION

Tables for Section 3 found in Appendix A:

- 3-1: Retail Population Current and Projected

3.1. General Description

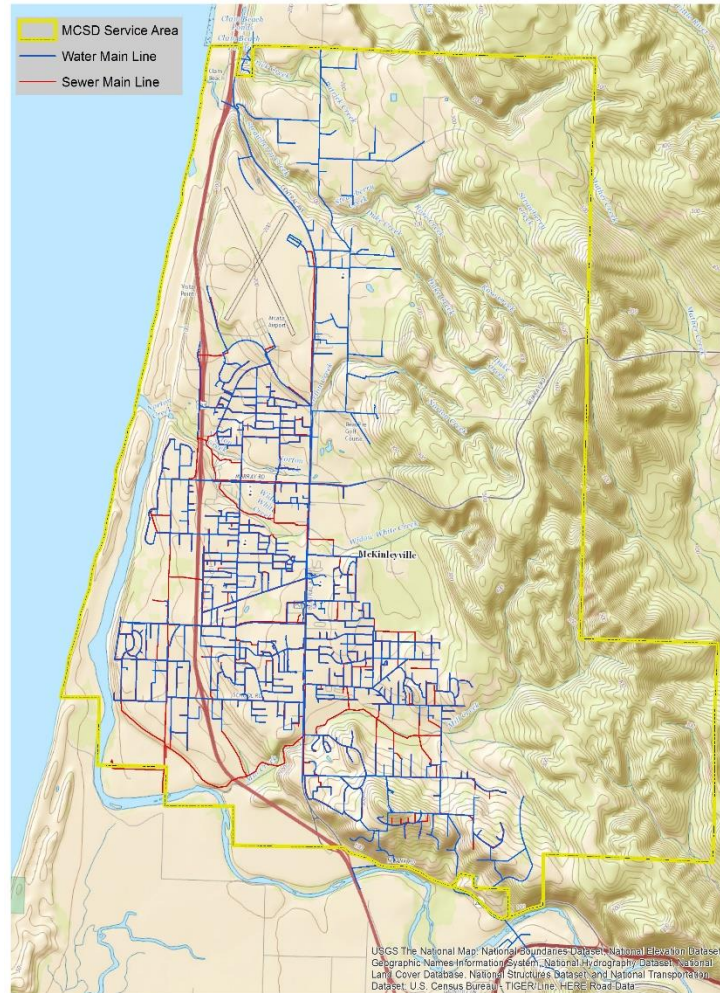
McKinleyville Community Services District was formed on April 7, 1970 as an independent Services District. Initially, the District had authority to serve water and treat sewer wastes, in 1972 the voters added street lighting powers. In 1985 the voters added parks and recreational powers. The District is governed by a five-member Board of Directors elected by McKinleyville voters. The Board meets monthly on the first Wednesday of each month to set policy, consider projects and resolve disputes. The Board's directives are implemented by the District's 27 full-time and 42 part-time employees. The District office is located at 1656 Sutter Road; just east of Central Avenue.

McKinleyville is a small northern California coastal community and is part of unincorporated Humboldt County CA. The District boundary encompasses 12,616 acres ranging from North Bank Road on the south to Patrick's Creek Dr. on the north (See 3.2 Service Area and Map). The McKinleyville water system has four pressure zones, six storage tanks (5.25MG), two booster stations and 87.3 miles of distribution mains.

The wastewater management facility (WWMF) is a secondary disinfected treatment process facility that consists of a collection system with 66.43. miles of collection mains, five lift stations, wastewater treatment facility, and effluent disposal and land reclamation systems. The average dry weather design flow to the WWMF is 1.6 million gallons per day (MGD) and the wet weather design flow is 3.3 MGD. (*MCSD Wastewater Facilities Plan 2012*)

3.2. Service Area and Map

Figure 1. MCSD Service Area and Facilities



3.3. Service Area Climate

McKinleyville is a northern California coastal community that averages 40.3 inches of precipitation per year with an average temperature of 52.9 degrees (*National Oceanic and Atmospheric Administration (NOAA) National Climate Data Center (NCDC)*). The District maintains a weather station at the WWMF that collects measurements for rainfall, temperature, wind speed, and wind direction. Temperatures are typically in the low 50's and high 40's in the wintertime and high 50's to mid-60's all summer long due to heavy fog and strong north winds.

The fall temperatures are in the mid 60's when the fog dissipates. The majority of rainfall occurs within the months of December through April with some months receiving as much as 14-inches. In 2013 McKinleyville received a record low annual rainfall amount of 16.6 inches.

	Monthly Average ETo (inches)	Average Rainfall (inches)	Average Max. Temperature (Fahrenheit)	Average Min. Temperature (Fahrenheit)
January	1.86	6.5	56	41
February	2.24	5.63	56	42
March	3.72	5.31	57	43
April	4.80	3.31	58	44
May	5.27	1.77	60	47
June	5.70	0.75	62	50
July	5.58	0.2	63	52
August	5.27	0.31	64	53
September	4.20	0.59	64	50
October	3.41	2.24	62	47
November	2.40	5.59	58	44
December	1.86	8.11	55	41
TOTAL	46.31	40.31	59.58	46.17

Table 1. *McKinleyville Climate Summary, Normal Years 1981-2010 (National Oceanic and Atmospheric Administration (NOAA) National Climate Data Center (NCDC)*

3.4. Service Area Population and Demographics

McKinleyville is the most populated unincorporated area in Humboldt County and is one of the fastest growing communities in the county with a 2010 population of 15,171. (*McKinleyville Community Plan-2002, 2000 U.S. Census Data*) McKinleyville is considered a “bedroom” community with light commercial areas of shops, stores, restaurants and two smaller shopping centers. The majority of the service area is single-family residential (88%), with 8% multi-family residential, and 4% commercial (*District Records December 2015*). There is a small institutional/governmental sector within the service area including, county airport and maintenance yard, two elementary schools, middle and a high school, an animal control facility, a Federal Courthouse and a Coast Guard Air Station. There are no industrial zoned parcels or accounts within the service area.

UWMP Table 3-1 R: Population projections for 2020, 2025, 2030, 2035, 2040.

Table 3-1 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040 _(opt)
	16,103	16,758	17,439	18,147	18,885	19,653
NOTES: Derived from US Census Data						

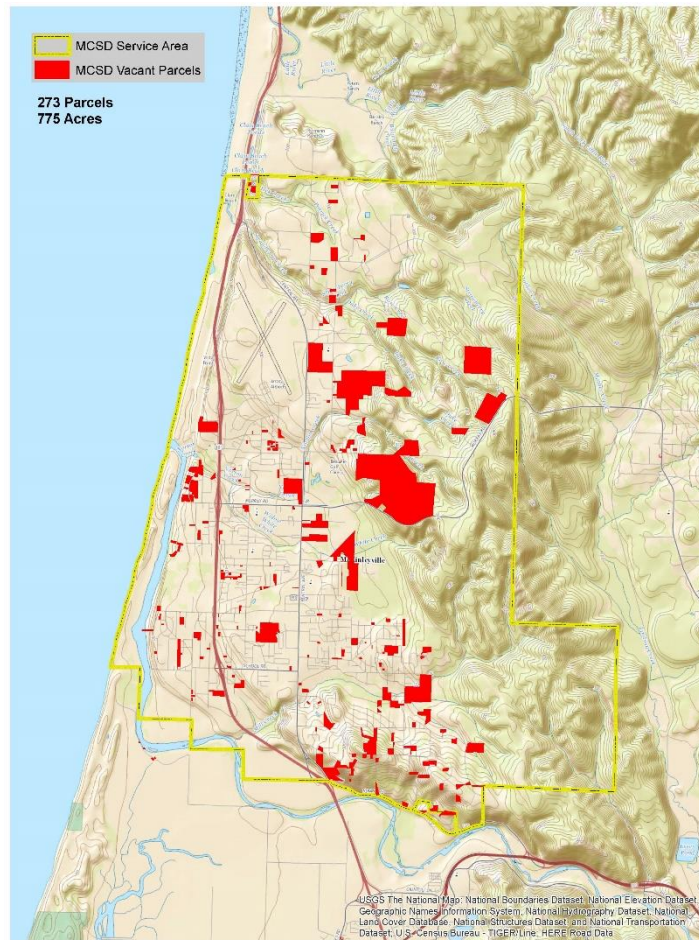
The 2012 Humboldt County General Plan Update Draft EIR Chapter 3.1 page 34 states that by 2030 most of the population growth within the Mad River Watershed Planning Area will occur within the McKinleyville urban development area. The MCSD service area covers mostly urban development areas although there is a significant amount of undeveloped forest and timber land along the eastern perimeter of the service area (see section 3.2). The potential for development of this area is limited due to the terrain and the land being privately owned and zoned for agricultural and timberland production.

There are several rural residential, single-family residential, and multi-family residential vacant parcels throughout the urban development area ranging from .10-120 acres. These parcels have been reviewed by the county and have the capability to be developed in the future (*Humboldt County General Plan DEIR, 2012*). The majority of vacant parcels are single-family residential (151) with an estimated occupancy of 2.38 persons per household (*Humboldt County General Plan DEIR, 2012*). There are 116 vacant rural-residential parcels and 5 vacant multi-family parcels. Humboldt County Planning Department is in the process of updating the Humboldt County General Plan which is proposing to re-zone several parcels within the McKinleyville urban area to multi-family in order to accommodate future growth.

Housing for McKinleyville 2010	Projected Housing for McKinleyville 2030	Max Buildout
5,535	6,771	8,611

Table 2 McKinleyville Housing Numbers and Estimates (*Humboldt County General Plan Update DEIR 2012*)

Figure 2. Vacant Parcels within MCSD Service Area



McKinleyville, CA population is counted through the McKinleyville Census Designated Place (CDP). Population estimates and projections were calculated using 1990, 2000, and 2010 U.S. Census data and service records from 1995-2015. The annual growth rate for McKinleyville from 2000-2010 was 1.1% (2000/2010 U.S. Census Data). Service records indicate the highest annual growth in meter connections occurred between 2004 and 2008 with an average of 111 connections per year. From 2008 to 2015 the average number of new connections per year has decreased to 44. Therefore, when calculating population projections from 2015-2040, a multiplier of 0.8% was used to account for the decline in annual growth as McKinleyville reaches full build-out. The multiplier of 0.8% matches the projected housing estimates produced

by the Humboldt County Planning Department and the DOF population projections for Humboldt County as a whole (Table 3-1 Appendix A).

To determine 2015 population MCSD used a DWR approved method of calculating service units to verify projections (see section 5.2). This method assumes a continuous rate of growth and is consistent with the Humboldt County Planning Department housing estimates through 2030. The McKinleyville CDP does not match the service area boundary exactly but contains 95% of the urban and developed areas. The areas not captured by the CDP are rural with steep terrain and include timber production zones.

4. SYSTEM WATER USE

Tables for Section 4 found in Appendix A:

- 4-1: Retail Demands for Potable and Raw Water Actual
- 4-2: Retail Demands for Potable and Raw Water Projected
- 4-3: Retail Total Water Demands
- 4-4: Retail Water Loss Summary Most Recent 12 Month Period Available
- 4-5: Retail Only: Inclusion in Water Use Projections

The McKinleyville water system experiences most of its demand from single-family residential customers followed by multi-family, commercial, Institutional and Government, and landscape irrigation. Agricultural water demand has dropped significantly over the past ten years within the MCSD service area due to agricultural lands being converted into residential developments. There are some small agricultural users growing blueberries and produce with a few plant nurseries. Although these users are within the MCSD service area they are located in rural sections and utilize the local groundwater for irrigation.

The average daily demand (ADD) for the entire MCSD system is approximately 1.51 million gallons per day (MGD). The maximum average daily demand (Max ADD) which includes 4 hours of peak hourly demand (PHD) and a 2000gpm commercial fire, is approximately 3.41 MGD (*MCSD Water Model Technical Report, 2012*).

4.1. Recycled versus Potable and Raw Water Demand

Due to our proximity to the Pacific Ocean, the climate, and abundance of precipitation there is no demand for raw water and little demand for recycled water apart from agricultural beneficial uses. The MCSD wastewater treatment facility uses a secondary disinfected treatment process which does not provide the level of treatment required for recycled wastewater use within parks

or on lawns. The District does utilize reclaimed wastewater to irrigate two pastures for beneficial agricultural use to grow fodder crops (*see section 6.5 for recycled water use*).

4.2. Water Use by Sector

UWMP Table 4-1: Identifies retail water demands throughout the MCSD service area.

Table 4-1 Retail: Demands for Potable and Raw Water - Actual			
Use Type	2015 Actual		
	Additional Description (as needed)	Level of Treatment When Delivered	Volume
Single Family		Drinking Water	304.609332
Multi-Family		Drinking Water	79.872320
Commercial		Drinking Water	22.058575
Institutional/Governmental		Drinking Water	13.697711
Landscape		Drinking Water	5.728202
Losses	<i>From AWWA worksheet</i>	Drinking Water	1.920000
Sales/Transfers/Exchanges to other agencies	<i>to City of Arcata</i>	Drinking Water	7.528878
Other	<i>Bulk Water Sales</i>	Drinking Water	1.596445
TOTAL			435.415018
NOTES:			

MCSD supplies water to 5 defined water use sectors; single-family residential, multi-family residential, commercial, institutional and government, and landscape. According to the District's water records, the number of residential connections have grown by 4% since the last UWMP. The average annual usage for a single-family home from 2006-2015 is 71,660 gallons/year with a maximum of 82,279 gallons/year in 2008 and a minimum of 59,054 gallons/year in 2015. Even though the population is continuing to increase within the service area the average annual usage is decreasing (see table 4-1). This decrease can be attributed to the slow decline in persons per household from 2.48 to 2.38 within the service area and residents reducing their overall water usage.

Multi-family developments are a requirement of Humboldt County Housing codes, but often multiple units are on one single meter. The annual average usage per multi-family connection from 2008-2015 is 201,090 gallons/year. Typically, individual multi-family units use about one-third to one-half of the water usage of a single-family household. This number is higher due the amount of duplexes, apartments, and trailer parks being served by one-meter connection. The maximum annual usage per connection between 2008 and 2015 is 243,358 gallons/year with a minimum of 175,992 gallons/year in 2015.

The average number of residential connections added per year from 2004-2008 was 111, from 2008-2015 the average number of connections added per year was 44. Due to the decrease in added connections/year water usages for single and multi-family were estimated and projected to 2040 using an annual population growth rate of 0.8% instead of the 1.1% annual growth indicated by the 2010 U.S. Census data.

The MCSD has a light commercial area of shops, stores, restaurants and two smaller shopping centers. The District does track commercial connections although there are many home based businesses and “cottage industries” that make accurate commercial service numbers and usage difficult. The average annual usage per commercial connections from 2006-2015 is 177,218gallons/year. The maximum annual usage was 221,348gallons/year in 2007. The minimum annual usage per connection was 159,060 gallons/year in 2015.

Commercial usage projections were estimated by multiplying the projected number of connections by the 10-year average usage. Connection growth in the commercial sector is slower than in the residential sectors due to limited commercial space within the service area.

There are no industrial accounts within the MCSD service area but there is a small institutional/governmental sector: the MCSD offices and facilities, Federal Courthouse, a County Airport and maintenance yard, two elementary schools, middle and a high school, an animal control facility, and a Coast Guard Air Station. The demand within the institutional/government sector for 2015 was 13,679,711 gallons. This demand is not expected to increase due to the limited potential for development and the proximity to existing county institutional/government facilities.

Institutional/Government sector usage projections were calculated using MCSD billing records. Considering the majority of the institutional/government connections are MCSD facilities or established State and County facilities this sector is not expected to grow significantly and was projected at 0.4% annual growth, half the rate of residential and commercial usages.

The landscape sector includes all MCSD facilities, open spaces, and sports sites irrigation. All landscape sites are metered and recorded through MCSD billing records. Landscape sector projections were calculated using MCSD billing records. Usage within this sector is not expected to increase significantly. There are no plans to expand MCSD facilities or sports fields therefore, landscape usage was projected at 0.4% annual growth half, the rate of residential and commercial usages.

Even though the population within the MCSD service has increased, water usage demands by sector has decreased since 2006. This downward trend can be attributed to the reduction in persons per household and the continuation of California State laws requiring residents, businesses, and municipalities to reduce overall water consumption.

There are several meters dedicated to landscape irrigation throughout the service area. All new subdivisions forming open space zones are required to install meters and encouraged to install drip systems and plant native plants that need little to no watering. The District manages twenty-eight such open space zones plus the Hiller Sports Site, Pierson Park, and Larissa Park and ensures that conservation measures are met. The District encourages landscape watering via separate meters and drip systems. Residential subdivisions are often required to have front setbacks with landscape zones maintained through benefit assessment fees. The MCSD had accepted many of the open space and landscape zones as a condition of development.

From 2010 through 2015 the landscape accounts used less than 1% of our total gross water use. Considering the requirement for open space zones it is expected that the landscape use sector will grow slightly. There are currently no plans to develop or expand MCSD sports site, fields, or parks.

McKinleyville and the City of Arcata's water supply are vulnerable to natural disaster, therefore, an emergency intertie was constructed to allow for the flow of water to occur between both systems if necessary. This line remains stagnant when not in use, therefore, a 5/8-inch bypass

was installed which allows the water within the intertie to turnover and maintain its chlorine residual. All water that passes through the bypass is metered and currently enters into the City of Arcata's water system from the McKinleyville system. The City of Arcata is then billed at the same wholesale price as if they were to receive the water directly from Humboldt Bay Municipal Water District (regional supplier). For the calendar year 2015 the amount of water that passed through the meter from McKinleyville to Arcata was 7.528 MG or 23.1 AF (acre-feet) well below the 3000 AF to be considered a wholesale transfer.

Table 4-2: Projected water use among water use sectors for 2020, 2025, 2030, 2035, 2040.

Table 4-2 Retail: Demands for Potable and Raw Water - Projected						
Use Type	Additional Description (as needed)	Projected Water Use				
		Records are Available				Report To the Extent that
		2020	2025	2030	2035	2040-opt
Single Family		361.528114	376.222475	391.514090	407.427236	423.987173
Multi-Family		95.506333	100.876022	106.547613	112.538081	118.865352
Commercial		45.859540	48.437918	51.161262	54.037721	57.075905
Institutional/Governmental		13.973865	14.255587	14.542989	14.836185	15.135292
Landscape		5.843686	5.961498	6.081686	6.204297	6.329379
Sales/Transfers/Exchanges to other agencies		7.680665	7.835512	7.993481	8.154634	8.319037
Other	Bulk Water Sales	1.628630	1.661464	1.694960	1.729132	1.763992
TOTAL		532.020833	555.250476	579.536081	604.927286	631.476130
NOTES:						

4.3. Distribution System Water Losses

MCSD distribution system water losses were calculated using the American Water Works Association (AWWA) water loss reporting worksheet and were calculated for calendar year 2015. The calculated water loss (real loss) for 2015 is 1.920 MG (AWWA Water Loss Worksheet) (See Appendix C). Non-revenue water is only 5.6% of the volume of water supplied and is only 2% of the cost of operating the water system.

The MCSD meters **ALL** customer usage and records **ALL** water sales and uses for parks and District facilities. System leaks are infrequent and are immediately repaired. The water distribution system is only about 45 years old and the system is kept in excellent condition. The District experiences only a few service leaks per year and very infrequent main leaks.

The District monitors our system closely and consider our response level to be more than adequate. MCSD tracks and contacts customers about unusual increases in their monthly usage and talks to them about any possible leaks and how to check their meters and plumbing.

McKinleyville Community Services District is in the process of replacing all meters with radio read meters. All meters within the District are expected to be replaced by 2017. The new water meters will also help with water wastage as they will note if water is running 24 hours straight. This will be an immense help to meter readers as well as office staff in locating leaks. The meters have a +/- 0.01% error factor. Replacing all meters will help reduce water loss and continue our efforts to manage leaks and assist customers with locating leaks easier.

4.4. Estimating Future Water Savings

Due to the service areas proximity to the ocean, the local climate, and abundance of precipitation MCSD does not include future water savings into the local codes, standards, ordinances, or transportation and land use plans.

4.5. Water Use for Lower Income Households

According the Humboldt County General Plan Housing Element, 2014, low income and very low income households have an income less than 80% of the median household income. Since MCSD boundaries do not correspond to city or county borders, Humboldt County data was used to determine the percent of low income households that was then applied to the MCSD service area. According to the 2014 Humboldt County General Plan Housing Element 42% of the households are classified as low and very low income. Water use projections include projected water use for single-family and multi-family residential housing needed for lower income.

5. BASELINES AND TARGETS

UWMP Standardized Tables for Section 4 found in Appendix A:

- 5-1: Baseline and Targets Summary

All SBX7-7 Verification Tables found in Appendix B

With the adoption of the Water Conservation Act of 2009, also known as the SBX7-7 the State is required to set a goal of reducing urban water use by 20% by the year end 2020. The current usage and percent reduction is measured by calculating the Gallons per Capita per Day. Gallons per Capita per Day (GPCD) is the total water use within a service area (residential, commercial, institutional, etc...) minus allowable exclusions, divided by the population. This is used in UWMPs for purposes of the Water Conservation Act of 2009.

In 2008 MCSD did not have at least 10% of its 2008 measured retail water demand met through recycled water, therefore, used a 10-year baseline to calculate the 2020 target. MCSD originally calculated individual baselines and targets for the 2010 report using population estimations that were inaccurate, therefore, the 2015 UWMP was updated to reflect new population data.

5.1. Updating Calculations from 2010 UWMP

Due to new population information published by the Department of Finance and the final release of the 2010 U.S. Census data MCSD updated the population portion of the 2015 UWMP to reflect the new information. In response to the new population data MCSD has updated their 10-year continuous base period as well as the 5-year continuous base period.

5.2. Baseline Periods

The 10-year continuous base period used for the 2015 UWMP is, 1996 through 2005. The 5-year continuous base period is from 2003 through 2007. The years chosen capture the highest

consumption years and contain the largest annual population growths, therefore, capturing the widest range of GPCD.

5.3. Service Area Population

MCSD did not use the DWR population tool to calculate the 2015 population due to the tools method of using persons per connection to determine population trends. Over the past ten years there has been an increase in the development of multi-family units with a few existing trailer parks throughout the service area. The addition of several multi-family units with existing trailer parks, where one meter serves numerous people, has skewed the direct relationship of number of persons per connection to population. For example: a trailer park that has 123 units but is served by only one 3-inch connection.

To calculate the 2015 population for McKinleyville, CA, MCSD utilized service records and calculated the number of units associated with each single and multi-family residential meter connection. For example: one meter that serves an 8-plex is counted as 8 service units and one meter that serves a 123-unit trailer park is counted as 123 service units. The number of service units associated with all residential connections, both single-family and multi-family, were totaled and then multiplied by the current number of persons per household 2.38 (*Humboldt County General Plan DEIR 2012*). The number of service units for MCSD in December 2015 was 6766, providing a population of 16,103. The population calculated using this method is well below the 16,900 estimated by the DOF and above the 15,353 estimate by the population tool. This method was reviewed and approved by Gwen Huff of DWR on March 14, 2015.

The population for all other years within the 10-year and 5-year baselines were calculated using a straight projection of 1.1% growth from 2000 population to the 2010 population. When the population for 2015 was calculated using the service unit's method the growth rate from 2010 to 2015 was 1.19%. The population growth from 2000 to 2010 was 1.1% therefore this method provided the most accurate projection for each year.

5.4. Gross Water Use

Gross water use is a measure of water that enters the distribution system of the supplier over a 12-month period (either fiscal or calendar year) with certain allowable exclusions. These exclusions are:

- Recycled water delivered within the service area. Recycled water use has been excluded from all calculation of gross water, as reflected in the SB X7-7 Tables. Water suppliers are not required to report their recycled water use, nor demonstrate any reduction in recycled water use for purposes of SB X7-7;
- Indirect recycled water;
- Water placed into long term storage (surface or groundwater);
- Water conveyed to another urban supplier;
- Water delivered for agricultural use;
- Process water.

Gross water use is reported for each year in the baseline periods as well as 2015, the compliance year. Gross water use was calculated using methodology 1: Gross Water Use, of the Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use 2011 manual, and was calculated for each baseline calendar year.

5.5. Baseline Daily Per Capita Water Use

Daily per Capita Water Use is the amount of water used per person per day. In the MCSD 2015 UWMP calculations, this is total water use within the service area, divided by population and is measured in gallons. Daily per Capita Water Use is reported in gallons and is referred to as “Gallons per Capita per Day” or “GPCD”. The GPCD is calculated for each year in the baseline periods and for the compliance year 2015.

The 10-year base period selected for the 2015 UWMP is from 1996-2005 (SBX7-7 Table 5). The rolling average GPCD for the 10-year base period was calculated using target method one and is 113.78 GPCD. The GPCD for each year within the 10-year baseline is included in the table below.

SBX7-7 Table 5: 10 & 5-year rolling averages and GPCD calculations

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Annual Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1996	12,242	543	122
Year 2	1997	12,566	545	119
Year 3	1998	12,899	533	113
Year 4	1999	13,241	540	112
Year 5	2000	13,599	529	107
Year 6	2001	13,706	561	112
Year 7	2002	13,818	575	114
Year 8	2003	13,932	574	113
Year 9	2004	14,044	595	116
Year 10	2005	14,160	574	111
10-15 Year Average Baseline GPCD				114
5 Year Baseline GPCD				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use
Year 1	2003	13,932	574	113
Year 2	2004	14,044	595	116
Year 3	2005	14,160	574	111
Year 4	2006	14,271	545	105
Year 5	2007	14,376	556	106
5 Year Average Baseline GPCD				110
2015 Compliance Year GPCD				
2015		16,103	456	78
NOTES:				

5.6. 2015 and 2020 Targets

To calculate the 2015 and 2020 targets MCSD used target methodology 1, 20% reduction of the 10-year rolling average for the minimum target and 95% of the rolling 5-year average for the maximum allowable 2020 target required by the CWC. The 2015 interim target is the mid-point between the 10-year baseline and the 2020 target.

10-year base GPCD	114	
80% of 10-year base GPCD	91	The 2020 target GPCD for MCSD
5-year baseline GPCD	110	
95% of 5-year base GPCD	104	The maximum allowable GPCD for 2020
2015 interim target	102	
2015 actual GPCD	78	

5.7. 2015 Compliance Daily Per Capita Water Use

The 2015 interim target is the mid-point between the 10-year baseline and the 2020 target set by method 1.

- 2015 interim target GPCD: **102**
- 2015 Actual GPCD: **78**

6. SYSTEM SUPPLIES

Tables for Section 6 found in Appendix A:

- 6-1: Retail Groundwater Pumped N/A
- 6-2: Wastewater Collected Within the Service Area in 2015
- 6-3: Wastewater Treatment and Discharge Within Service Area in 2015
- 6-4: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area
- 6-5: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual N/A
- 6-6: Methods to Expand Future Recycled Water Use
- 6-7: Expected Future Water Supply Projects or Programs
- 6-8: Water Supplies 2015 Actual
- 6-9: Water Supplies — Projected

The source of water distributed by MCSD is purchased from The Humboldt Bay Municipal Water District (HBMWD). The water distributed by HBMWD is from the Mad River. The R.W. Mathews dam, located in Trinity County, impounds water to form Ruth Reservoir. The Mad River flows from Trinity County into Humboldt County where water is diverted at the District's Essex pumping facility located approximately 75 miles downstream from the dam. MCSD does not purchase or import water from any other source.

At HBMWD's Essex Operations Center located just northeast of Arcata, water is diverted and pumped to meet demand. Municipal water is pumped from an aquifer beneath the Mad River by four wells, called Ranney wells, situated within the riverbed at depths ranging from approximately 60 to 90 feet. Industrial water is diverted by a surface diversion facility.

The water delivered from the HBMWD to MCSD passes through a single transmission main line under the Mad River between the City of Arcata and McKinleyville. An emergency intertie with the City of Arcata water system was constructed under the Highway 101 bridge and is maintained as an emergency connection only (see section 7.1 for more information). The City of Arcata also purchases water from HBMWD.

MCSD receives the water delivery at the North Bank Pump Station having a bank of three pumps. The District has two 1.5 Million gallons tanks, two 1.0 million gallon tanks, a 100,000 and 150,000 gallon tank and three booster stations throughout the distribution system.

The District does not pump any groundwater or draw surface water from any sources. The local stormwater system is separate from both the water and wastewater systems and is not currently utilized to meet local water supply demands.

6.1. Purchased Water

MCSD purchases its water directly from HBMWD. All water received is metered and billed monthly. For calendar year 2015 MCSD purchased 455.879 MG. In 2010 MCSD purchased 552.813 MG. From 2010 to 2015 MCSD's purchased water amounts have decreased by approximately 13%.

6.2. Surface Water

HBMWD has appropriative water rights permits from the State Water Resources Control Board through the year 2029 for surface water storage and diversion. HBMWD water rights permits allow it to store and divert a combined 75 MGD from the Mad River which represents 8.5% of the average annual runoff (320,181.616 MG) of the Mad River Basin for the period from 1963 to 2010 (average annual runoff data provided by USGS at Gage Station 1148100 on the Mad River near Arcata, CA).

The HBMWD operates Ruth Reservoir, a 48,000-acre foot reservoir about 79 miles east of the coastal areas. This reservoir impounds only about 3% of the watershed and fills at a very rapid rate in normal rainfall years. Approximately 11 MGD is delivered to the municipal/district customers. Of the delivered water, a peak flow rate of 2.8 MGD is committed to serve the MCSD customers.

6.3. Ground Water

MCSD does not utilize local groundwater to supply customers. Due to the service areas proximity to the ocean and the reliable source of water from Ruth Lake, MCSD has no plans to explore groundwater sources.

6.4. Stormwater

MCSD does not utilize stormwater to meet local water supply demands. The stormwater collection system within the MCSD service area is a standalone system managed and maintained by Humboldt County Public works.

6.5. Wastewater and Recycled Water

Due to McKinleyville's proximity to the Pacific Ocean, the climate, and the abundance of precipitation, there is little demand for recycled water within the service area. Dual systems for recycled water use would be extremely expensive and are not being considered at this time. The MCSD wastewater treatment facility produces secondary disinfected treatment that is beneficially utilized for agricultural irrigation but is not capable of producing high quality effluent for further recycled water use.

6.5.1. Wastewater Collection Within Service Area

MCSD owns and operates the only wastewater treatment facility (WWMF) for the service area. All wastewater collected is from within the MCSD service area. Due to the rural nature of McKinleyville approximately 15% of residents within the service area are on septic systems.

6.5.2. Wastewater Collection Treatment and Disposal

The wastewater management facility is a secondary disinfected treatment process facility that consists of a collection system with 66.43 miles of collection mains, five lift stations, wastewater treatment facility, and effluent disposal and land reclamation systems. The average dry weather design flow of the treatment facility is 1.6 million gallons per day (MGD) and the wet weather design flow is 3.3 MGD (*MCSD Wastewater Facilities Plan 2012*).

In accordance with the Districts National Pollution Discharge Elimination System (NPDES) permit, MCSD disposes treated wastewater to six approved locations; Mad River, percolation ponds, lower Fischer ranch, upper Fischer ranch, Pialorsi ranch, and Hiller storm water treatment wetland and forested area. Three of the disposal locations; lower Fischer ranch, upper Fischer ranch, and Pialorsi ranch, provide seasonal agricultural irrigation for fodder crop production. Generally, these locations are irrigated during the summer months of May to October. Due to high rainfall during the winter months, from October to May MCSD discharges directly to the Mad River. Discharge to the percolation ponds and Hiller storm water treatment wetland and forested area is land disposal and are utilized during the summer months or if the river is below 200 cubic feet per second (cfs).

6.5.3. Recycled Water Beneficial Uses

MCSD owns and manages a 120-acre ranch (Fischer Ranch) for the purposes of reclaimed wastewater disposal. Four of the six permitted discharge locations are located on the ranch; lower Fischer ranch, upper Fischer ranch, Pialorsi ranch, and the percolation ponds. All ranch discharge locations except the percolation ponds are utilized for beneficial agricultural irrigation.

Seasonally one-hundred acres of the Fischer ranch is leased to local ranchers who utilize the property for fodder crop production such as hay. For calendar year 2015, 96.7 MG of recycled wastewater was utilized for beneficial agricultural irrigation.

Most agricultural land within the MCSD service area has already been converted into residential developments. There is one 40-acre ranch adjacent to the existing disposal site that could potentially be irrigated with recycled wastewater in the future. Due to the lack of agriculture within the service area and the abundance of groundwater the demand for recycle wastewater for irrigation is not expected to increase substantially over the next 20-years.

6.5.4. Future Recycled Water Use

Water is abundant and relatively inexpensive in our area. Dual systems for recycled wastewater use would be extremely expensive for the piping and system installation. Additionally, tertiary treatment with nutrient removal would be required for recycled use in parks and lawn areas. The District's pond plant produces secondary disinfected treatment but is not capable of producing such high quality effluent. Economics in this area simply will not allow such an expensive concept. MCSD did not use or distribute recycled water in 2010 nor does it project any use for 2015.

UWMP Table 6-4: Current and projected recycled water direct beneficial uses within MCSD service area.

Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area*									
<input type="checkbox"/>	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.								
Name of Agency Producing (Treating) the Recycled Water:		McKinleyville CSD							
Name of Agency Operating the Recycled Water Distribution System:		McKinleyville CSD							
Supplemental Water Added in 2015		No							
Source of 2015 Supplemental Water		No							
Beneficial Use Type	General Description of 2015 Uses	Level of Treatment	2015	2020	2025	2030	2035	2040 (opt)	
Agricultural irrigation	Irrigated for growing fodder crops	Secondary, Disinfected - 23	96.70	102	108	114	120		

6.6. Desalinated Water Opportunities

Due to the regional climate and abundance of precipitation there are no plans within the region or MCSD service area for consideration of desalinated water.

6.7. Exchanges and Transfers

MCSD currently does not exchange or transfer water with any other regional water suppliers.

There is an emergency intertie connecting the MCSD and City of Arcata water systems that is for emergency use only. The intertie is explained in detail in section 4.2.

6.8. Future Water Projects

MCSD rules and regulations states that the MCSD water distribution system must have enough water storage to sustain 5 days of ADD and fire flows. The District's current storage capacity for potable water is 5.25 million gallons in six storage tanks, McCluski Hill (100,000 and 150,000 gal.), Cochran Road (1 million and 1.5 million gallons) and Norton Road (1 million and 1.5 million gallons). In the event the sole transmission line from HBMWD is restricted or destroyed the current storage capacity leaves a 40-hour water supply for McKinleyville water customers at peak flow.

To address this, one new 5-million-gallon tank is planned for construction within the District's service area. MCSD is currently in the process of determining the feasibility of the Mather Road tank site due to seismic considerations and the private ownership of the land. A cost analysis will be conducted to determine the viability of design at that site opposed to the purchase of a location in a less sensitive area.

A new 5-million-gallon tank would increase the District's storage capacity, enhance fire flows during peak summer usage and provide additional system capacity for new growth.

6.9. Summary of Existing and Planned Sources of Water

MCSD receives 100% of its water from HBMWD the regional supplier. The water distributed by HBMWD is from Ruth Lake, which is located in Trinity County. The Mad River R.W. Matthews Dam, located at river mile 79 impounds water in Ruth Lake. HBMWD manages releases from the dam to ensure sufficient supplies downstream throughout the year.

UWMP Table 6-8: Summary of existing water supplies for 2015.

Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2015		
		Actual Volume	Water Quality	Total Right or Safe Yield (optional)
Purchased or Imported Water	HBMWD	455.879	Drinking Water	1022
Total		455.879		1022
NOTES:				

7. WATER SUPPLY RELIABILITY

Tables for Section 7 found in Appendix A:

- 7-1: Bases of Water Year Data
- 7-2: Normal Year Supply and Demand Comparison
- 7-3: Single Dry Year Supply and Demand Comparison
- 7-4: Multiple Dry Years Supply and Demand Comparison

All water supplied to the region by HBMWD comes from the Mad River watershed and the Ruth Lake impounded by the R.W. Matthews Dam. The total volume of water impounded and diverted by HBMWD represents a small percentage of the natural yield of the Mad River watershed. The Mad River's average annual discharge into the Pacific Ocean is just over 325,851.432 MG. Ruth Lake, in its entirety, represents less than 5% of the total average annual runoff from the Mad River basin. The entire 15,650.644 MG capacity of Ruth Lake is not drawn down each year, so the amount of winter-season runoff captured in the reservoir is yet a smaller percentage of the total runoff. With respect to diversions, the current withdrawal rate at Essex (where HBMWD pumps water for distribution within the region) is approximately 25 to 30 MGD which is only 3% of the total annual average runoff of the Mad River watershed. The full diversion capacity of 75 MGD (84,000 acre-feet per year) is just 8 % of the total annual average runoff of the watershed.

Average annual precipitation in the watershed is approximately 60 inches with up to 75 inches in the high headwaters primarily falling between October and April. Long duration snow and rain storms are common during the winter with short duration thunderstorms occurring infrequently during the summer and fall. The highest average precipitation is in the middle of the watershed in Bug Creek and Boulder Creek, averaging over 100 inches per year in the mountains. The highest precipitation in the watershed is in the vicinity of Bug Creek Butte, averaging over 120 inches a year (*Mad River Watershed Assessment, 2010*).

HBMWD treats its water and performs annual monitoring and testing, in accordance with the USEPA and the State Board regulations and requirements, to ensure its water is safe to drink. In addition, MCSD performs separate monitoring and testing, in accordance with the USEPA and the State Board regulations and requirements, to ensure that the water quality remains high within the MCSD storage and distribution systems. Additional monitoring performed by MCSD includes laboratory analysis for coliform bacteria, disinfection byproducts and lead/copper. Test results for disinfection byproducts and lead/copper are included in the MCSD test results table within the 2015 Consumer Confidence Report (CCR) Appendix G. The MCSD testing for coliform produced zero results. Test results for disinfection byproducts have been below the Maximum Contaminant Level (MCL).

In 2015, HBMWD conducted approximately 470 water quality tests for over 50 contaminants. MCSD also performed approximately 226 water quality tests during 2015. The results from both the HBMWD's and the MCSD's 2015 monitoring and testing programs indicate that the water quality is very high, and has consistently been the case in past years.

7.1. Constraints on Water Sources

The main constraint regarding MCSD's retail water source is the sole transmission line from HBMWD that runs under the Mad River. This transmission line is vulnerable to natural disasters such as, earthquakes and floods. MCSD addressed this concern by installing a 12-inch emergency intertie between the MCSD and City of Arcata water systems. This intertie has the capability to supply water to either municipality in the event water from HBMWD is unavailable. HBMWD may also restrict water use for retail customers if Ruth Lake falls to 65% of capacity and the accumulated rainfall in the Ruth area is 70% or less of the historical average (49 inches). An event such as this has not occurred within the Mad River Watershed since 1977. Other possible constraints include contamination or damage to the system from natural disasters such as, earthquakes, floods, or other destruction.

7.2. Reliability by Type of Year

HBMWD has permitted rights to store 15,650.644 MGY of Mad River water at Ruth Reservoir and divert 27,371.520 MGY of water at Essex to supply its wholesale and retail customers. The highest projected total water demand for the HBMWD's customers in 2035 is 18,668.048 MGY, which is approximately 68% of this permitted water supply. With this in mind, the following sections will provide data for each of the following water year types: normal, single dry, and multi-dry.

UWMP Table 7-1: Shows specific base water years that each type of water year falls into.

Table 7-1 Retail: Bases of Water Year Data			
Year Type	Base Year	Available supplies if year type repeats	
		Agency may complete these columns for volume only, percent only, or both	
		Volume available	% of avg supply
Average Year	1989	1,022	100%
Single-Dry Year	1977	1,022	100%
Multiple-Dry Years 1st Year	1990	1,022	100%
Multiple-Dry Years 2nd Year	1991	1,022	100%
Multiple-Dry Years 3rd Year	1992	1,022	100%
NOTES: Average year volume chosen based on average annual Mad River watershed discharges from 1963-2015.			

7.2.1 Average Year

During a normal water year, the Ruth Lake area averages 65.42 inches of rainfall with about 48,444.493 MG of water flowing into the reservoir via the Mad River. The average runoff for the watershed near the District's diversion facilities at Essex is 312,514.989 MGY (over the entire record period from 1963 to 2015). The average annual runoff data was provided by USGS at Gage Station 1148100 on the Mad River near Arcata, CA. The Water Year ending in 1989 was considered an average water year because the average runoff for the watershed that year was 321,082.610 MGY, which is closest to the average annual runoff for the watershed as provided.

7.2.2 Single-Dry Year

The water year ending in 1977 was the driest recorded for the District, far drier than any other. Rainfall in the Ruth area was 29 inches, or 41% of normal (69.8 inches). Flows into the reservoir were 8,472.146 MGY, or 15% of normal. The runoff for the watershed measured near the District's diversion facilities was 35,552.710 MGY, or 11% of normal. The average reservoir volume for the water year was 5,880.545 MG, which is 44% of capacity and 51% of normal. The reservoir was drawn down to 3,640.337 MG, or 27% of its capacity at the end of the water year.

Fall storms arrived in November 1977 and quickly refilled the reservoir. This water year was severely dry throughout the entire state of California and was a very exceptional year in the District's history:

- In 52 years of records, it was the only year in which rainfall was less than 50% of normal (69.8 inches).
- It was also the only year in which the reservoir was not filled to capacity.
- Total flows into the reservoir via the Mad River were half the value of the next driest year (2001).
- Runoff for the watershed and average reservoir volume were each 60% of the next driest year.

7.2.3 Multiple Dry-Year Period

The three water years between October 1989 and September 1992 represent the driest multiple years recorded for the District:

- Rainfall for this period averaged 42 inches per year, or 60% of normal.
- Of the three water years, the driest year for rainfall was water year 1990/1991 with 37 inches, or 53% of normal.
- Flows into Ruth Lake via the Mad River averaged 22,483.772 MGY, or 40% of normal.
- Despite the diminished rainfall and runoff, rainfall was more than sufficient to refill the reservoir each year.

- Reservoir volume during this period averaged 10,360.960 MG, which is 77% of capacity and 90% of normal.

The runoff for the watershed above the District's diversion facilities for these three water years were.

- 1990: 186,326.934 MGY, or 60% of normal.
- 1991 (driest water year of the three): 120,988.765 MGY, or 39% of normal.
- 1992: 92,148.927 MGY, or 29% of normal.

7.3 Supply and Demand Assessment

A peak flow rate of 2.8 MGD is committed to serve the MCSD from HBMWD. The current average daily demand (ADD) for the MCSD service area is 1.51 MGD (2015).

UWMP Table 7-2 & 7-3: Supply and demand for normal year and single dry year.

Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals (autofill fm Table 6-9)	1,022	1,022	1,022	1,022	1,022
Demand totals (autofill fm Table 4-3)	634.021	663.250	693.536	724.927	751.476
Difference	388	359	328	297	271
NOTES:					

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals	1,022	1,022	1,022	1,022	1,022
Demand totals	634.021	663.250	693.536	724.927	751.476
Difference	388	359	328	297	271
NOTES:					

7.4 Regional Supply Reliability

The North Coast is one of the only areas in California with an abundance of water. Droughts, while severe climatically, have not resulted in the level of water supply shortfalls that other areas of California routinely experience. The drought of 1976/1977 was the only declared water emergency on the North Coast. During that event, Ruth Lake storage was 52% of normal average volume and rainfall in the Ruth Lake area was 42% of historical average. The drought came to an end with heavy rains during November 1977.

8 WATER SHORTAGE CONTINGENCY PLANNING

On June 11th, 2015, HBMWD along with its four municipal customers classified as urban water suppliers, received confirmation from the State Water Resources Control Board (SWRCB) that their request to be placed in a lower conservation tier had been granted. Prior to this ruling, MCSD would have been in a tier that would have required a 12% reduction.

Criteria for meeting the request included showing that the source of supply does not include groundwater or water imported from outside the hydrologic region in which the water supplier is located, and that the system has a minimum of four years reserved supply available. Having met these criteria, the SWRCB approved the request by HBMWD. Therefore, McKinleyville and Humboldt Community Services Districts, the Cities of Eureka and Arcata, as well as HBMWD will be required to reduce water production by 4 percent for each month as compared to the same month in 2013. In approving the request, the SWRCB acknowledged the unique characteristics of our region's water system and the security of the supply present at Ruth Lake.

Review of total water production data from 2013 and 2015 shows that MCSD customers have been diligently monitoring and reducing

their water usage in consideration of the state's drought. MCSD has drafted and approved Ordinance 10 (Appendix E) which provides a range of water use restrictions to reduce water consumption, enforcement authority and penalties for

violation of the water use restrictions. MCSD Ordinance 10 is designed to be flexible and able to be implemented in a wide range of water shortage situations.

Total Water Production (millions of gallons)			
Month	2013	2015	% Reduction
January	38.3	32.8	14%
February	33.6	29.9	12%
March	36.2	33.5	8%
April	39.8	33.2	16%
May	49.4	38.2	23%
		Average	14.60%

Table 3. MCSD Water Production Reduction

In March 2015 the MCSD Board of Directors approved the MCSD Water Shortage Contingency Plan (WSCP) (See Appendix D). MCSD has prepared this Water Shortage Contingency Plan as a response to California State Water Resources Control Board's Resolution 2014-0038, Emergency Regulation or Statewide Water Conservation, to prepare for potential future local, regional, and State water shortage conditions, and to fulfill a requirement of the Urban Water

Management Planning Act. The MCSD Board of Directors has adopted the WSCP and its contents as Ordinance 10 (See Appendix E).

8.1. Stages of Action

MCSD's WSCP defines the four stages of action and percentage of reduction required for specific drought conditions. In addition, the WSCP establishes rules and regulations for rationing and conservation of water during a water shortage emergency and establishes penalties for violations. The full version of the MCSD WSCP is in Appendix D.

The provisions of the WSCP shall take effect whenever the District General Manager, upon engineering analysis of District water supplies, information received from the wholesale water provider, Humboldt Bay Municipal Water District (HBMWD), or due to regulatory requirements, notices, or orders, finds and determines that a water shortage emergency exists or is imminent within the MCSD water service area and a declaration of a water shortage is made by a resolution of the MCSD Board of Directors, and they shall remain in effect for the duration of the water shortage set forth in the resolution.

The WSCP establishes water use restrictions and prohibitions to be implemented during times of declared water shortages, or declared water shortage emergencies. It establishes four levels of response actions to be implemented in times of shortage, as set forth in Section 7, with increasing restrictions on water use in response to worsening drought conditions or decreasing available supplies. The MCSD Board of Directors, upon recommendation by the Manager, shall determine and declare by resolution the stage of response action necessary. Notice of such determination shall be published in a newspaper of general circulation and shall be effective within five (5) days from the date the declaration is made.

The following outlines each stage of action within the MCSD WSCP:

Stage 1 - Voluntary Conservation (up to 20% reduction).

Achieve up to 20% reduction in water usage compared to the corresponding billing period in the previous calendar year (prior to declaration of the most recent water shortage emergency) by

encouraging voluntary conservation, enforcement of water wasting regulations and water conservation regulations, requesting customers to make conscious efforts to conserve water, request restaurants to serve water only upon request, encourage private sector to use alternate source and encourage night irrigation. Voluntary actions include:

- Water conservation is requested of all customers;
- Installation and use of water efficient indoor devices;
- Use of hose-end shutoff nozzles on all garden and utility hoses;
- Refrain from washing cars, boats, trailers, or other vehicles except by hose with shutoff nozzle and bucket;
- Installation of low-flow shower heads, low flush water closets, and faucet aerators; and
- Promptly repair all leaks in plumbing fixtures, water lines, and sprinkler systems.

Stage 2 - Mandatory Conservation (up to 30% reduction)

From and after the date that the Board of Directors, by resolution, determines that Stage 2, Mandatory Conservation actions are to be implemented, in addition to the voluntary action in Stage 1. the following uses are declared to be non-essential and are prohibited:

- Outdoor irrigation of ornamental landscapes or turf with potable water is except Sundays, Tuesdays, Thursdays and Saturdays;
- Washing sidewalks, driveways, parking areas, tennis courts, patios or other exterior paved areas except by public agency for the purpose of public safety;
- Application of potable water to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures;
- Use of potable water in a fountain or other decorative water feature, except where the water is part of a recirculation system;

- Watering any portion of a golf course other than the tees and greens except where private well or recycled water supply is used;
- Fire hydrant water unless authorized by the District, except by fire protection agencies for fire suppression purposes, or for other authorized uses including storm drain maintenance, and street sweeping purposes. Water/sewer flushing and fire flow testing are authorized only if coordinated and performed at the same time; and
- The use of a hose that dispenses potable water to wash a motor vehicle or for any other purpose, except where the hose is fitted with a shutoff nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.

Stage 3 – Emergency Water Shortage (up to 50% reduction)

From and after the date that the Board of Directors, by resolution, determines that Stage 3, Emergency Water Shortage actions are to be implemented, the following additional uses are declared to be non-essential: the following additional uses are declared to be non-essential and are prohibited:

- Outdoor irrigation unless total water use is reduced by 50 % from the same billing period from the previous calendar year (prior to declaration of the most recent water shortage emergency);
- Any leak that are not repaired within 24 hours after discovery;
- Automated commercial car washes without a water recycling system;
- Street cleaning or dust control with potable water;
- Filling or to top off any swimming pools, outdoor spas, wading pools, and ornamental water features;
- Use of water from a fire hydrant except for fighting fires and human consumption;

- Watering any residential lawn, or any commercial or industrial area lawn maintained for aesthetic purposes, at any time of the day or night during the period of March 1, through September 30, when a Stage 3 is in progress;
- Planting any new landscaping, except for designated drought resistant landscaping approved by the District;
- Operating a hotel, motel or other commercial lodging establishment without offering patrons the option to forego the daily laundering of towels, sheets and linens;
- Use of water for any outdoor washing purpose including commercial car washing, window washing, and paint preparation; and
- Washing of cars, boats, trailers, or other vehicles.

Stage 4 – Critical Water Shortage Emergency Mandatory Rationing (> 50% reduction)

From and after the date that the Board of Directors, by resolution, determines that Stage 4, Critical Water Shortage Emergency actions are to be implemented, the following additional uses are declared to be non-essential and are prohibited:

- Agricultural irrigation;
- Outdoor irrigation;
- Any leaks that are not repaired immediately; and
- Bulk water sales.

8.1.1. Monitoring Procedures

During a declared water shortage emergency water production volume will be reviewed monthly, including a calculation of Gallons Per Capita per Day (GPCD), and comparison to the same month of the year just prior to the declaration of a water shortage emergency.

8.2 Prohibition on End Uses

The following are the MCSD Rules for Homes and Businesses for water uses that are declared to be non-essential and are prohibited:

- Outdoor irrigation of ornamental landscapes or turf with potable water is only allowed on Sundays, Tuesday, Thursdays and Saturdays;
- Washing sidewalks, driveways, parking areas, tennis courts, patios or other exterior paved areas except by the public agency for the purpose of public safety;
- Application of potable water to outdoor landscapes in a manner that causes runoff such that water flows into adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots or structures;
- Use of potable water in a fountain or other decorative water feature, except where the water is part of a recirculation system;
- The application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall;
- Watering any portion of a golf course other than the tees and greens except where private well or recycled water supply is used;
- Fire hydrant water unless authorized by the District, except by fire protection agencies for fire suppression purposes, or for other authorized use including storm drain maintenance, and street sweeping purposes. Water/sewer flushing and fire flow testing are authorized only if coordinated and performed at the same time;
- The use of a hose that dispenses potable water to wash a motor vehicle or for any other purpose, except where the hose is fitted with a shutoff nozzle or device attached to it that causes it to cease dispensing water immediately when not in use;
- Restaurants and other food service establishments can only serve water to customers upon request;

- Hotels and motels must provide guests with the option of not having towels and linens laundered daily;
- Using potable water to irrigate turf in public medians; and
- Using potable water to irrigate landscapes of new homes & buildings inconsistent with CBSC & DHCD requirements.

8.3 Penalties, Charges, Other Enforcement of Prohibitions

Violations of any provision of Ordinance 10 shall be punished as follows:

Section 11. Fines and Penalties (MCSD Ordinance 10)

- a) An administrative fine of up to \$500.00 may be levied for each violation of a provision of this ordinance in accordance with Water Code Section 71590.
- b) Each violation of this ordinance may be prosecuted as a misdemeanor punishable by imprisonment in the county jail for not more than thirty (30) days or by a fine not exceeding \$600, or both as provided in Water Code Section 71644. The manager shall forthwith direct and cause disconnection of the water service of any person or customer cited for a misdemeanor under this section. Such service shall be restored only upon payment of any turn-on charge fixed by the Board of Directors.
- c) Each day any violation of this Ordinance is committed or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder.

Enforcement of any violations of Ordinance 10 shall be as follows:

Section 12. Enforcement (MCSD Ordinance 10)

The Manager and all employees of the McKinleyville Community Services District have the duty and are authorized to enforce the provisions of this Ordinance and shall have all the powers and authority contained in California Penal Code Section 836.5, including the power to issue written notice of violation.

8.4 Consumption Reduction Methods

MCSD has the following consumption reduction methods in place to reduce water demand within the service area:

- Fire hydrant water use is prohibited unless authorized by the District, except by fire protection agencies for fire suppression purposes, or for other authorized use including storm drain maintenance, and street sweeping purposes.
- Water/sewer flushing and fire flow testing are authorized only if coordinated and performed at the same time;

8.4.1 Categories of Consumption Reduction Methods

- Expand Public Information Campaign: MCSD has created fliers, added inserts to bills and newsletter, published articles, and provided links to information and rebate programs on the website.
- Improve Customer Billing: Over the past five-years MCSD has changed how they collect, store and report water usage and billing data. For example; what used to be residential usage is now broken out into single-family usage and multi-family usage. This separation in billing allows MCSD to compare actual usage to average usage for each sector.
- Meter Reading Accuracies: In 2013 MCSD began a full service area meter replacement program. With several of the customer meters reaching the end of their 18-year life cycle MCSD is working to have all meters within the service area replaced with more accurate radio read meters. Expected completion is 2017.
- Reduce System Water Loss: MCSD reduces system water loss by conducting the AWWA water loss audit annually, through monthly inspection programs and by performing field verification of suspected leaks and known trouble areas.

- Increase Water Waste Patrol: MCSD has trained meter reader to look for violations of prohibited end-use of water. These employees are equipped with fliers and information reminding customers of prohibited uses and the penalties for being in violation.

8.5 Determining Water Shortage Reductions

MCSD is able to determine actual water savings made from initiating the WSCP through production, consumption, and billing records. In addition to record keeping, the Operations Director compiles and calculates the GPCD and usages for residential and commercial customers monthly for inclusion in the monthly reports for the Board of Directors.

8.6 Revenue and Expenditure Impacts

During the implementation of the various water shortage emergency stages, there will be an impact on revenue and expenses for the District due to the anticipated demand reduction. The table showing net impact on revenue given the various demand reduction scenarios is in section 7.0 of the WSCP. This is intended to be a general analysis of revenue impact and is based on the 2013-2014 annual budget.

The net impact on revenue depends on the stage of water shortage emergency and the duration of the water shortage event. The worst case scenario is a 50% reduction in volumetric sales for a 12-month duration resulting in a \$495,160 shortfall. The more likely scenario is a 20% demand reduction for a three to six-month duration resulting in a net reduction in revenue between \$49,516 and \$99,032. The District has several options it can consider for handling the anticipated revenue impact including:

- Reduce funds allocated for the Capital Improvements Funds (CIP) reserve, thereby reducing the CIP reserve fund and delaying implementation of CIP projects;

- During the next rate study develop a water shortage surcharge (rate structure) that automatically goes into effect upon declaration of a specific stage of water shortage emergency; or
- During the next rate study include the establishment of a water shortage emergency fund that will be available in the event of a water shortage emergency.

8.7 Resolution or Ordinance

The MCSD Board of Directors adopted, signed and approved Ordinance 10 on April 1, 2015. Ordinance 10 was developed from and includes all the provisions of the WSCP. The Board approved resolution 2015-09 authorizing MCSD the power to regulate, enforce, and issue fines for violations outlined in the WSCP.

8.8 Catastrophic Supply Interruption

The California Safe Drinking Water Act mandates in Section 4029 that every public water system includes a Disaster Response Plan as part of their Emergency Notification Plan. This plan will outline the steps to be taken to maintain or return water service to the District's customers after a major disaster. MCSD has prepared an Emergency Response Plan (ERP) which describes the actions the District will take during a catastrophic interruption of water supplies.

The water distribution system is susceptible to two types of emergency situations, earthquakes and contamination. In the event of a major earthquake or groundwater contamination, a water shortage contingency plan would be implemented, which would include rationing of the water storage reservoirs. However, if an earthquake were substantial enough to damage the HBMWD Ranney well casing, pumping system, distribution system, or reservoirs, the water supply would be decreased. In this case, another temporary water supply would need to be used, such as, the Arcata intertie, if Arcata is unaffected. Another option is to have water transported by truck from nearby municipalities.

8.9 Minimum Supply Next Three Years

The North Coast is one of the only areas in California with an abundance of water. Droughts, while severe climatically, have not resulted in the level of water supply shortfalls that other areas of California routinely experience. The drought of 1976/1977 was the only declared water emergency on the North Coast. During that event, Ruth Lake storage was 52% of normal average volume and rainfall in the Ruth Lake area was 42% of historical average. The drought came to an end with heavy rains during November 1977. Even during the only declared water emergency on the North Coast MCSD did not experience water supply restrictions. During this drought the MCSD supplies were sufficient to meet normal demand without restrictions.

The driest three-year period was 1990, 1991, and 1992. During this period conditions requiring implementation of a water shortage emergency did not exist, there were no restrictions on water supplied by the HBMWD and MCSD supplies were sufficient to meet normal demand without restrictions.

Based on the above historical information, MCSD projects that if the minimum water supply was available during each of the next three water years (based on the driest three-year historic sequence) there would be sufficient supply to meet normal demand without implementing water use restrictions.

HBMWD performed an analysis of the Ruth Lake storage capacity in 2015. The Ruth Lake Storage Capacity Analysis assumed a four-year repetition of the 1976-1977 hydrology (driest years on record with only 10% of average discharge) and found that Ruth Lake has sufficient supply to provide 36.5 million gallons per day for four years, which is almost four times the current total demand and reliably provide twice the current demand indefinitely.

9 DEMAND MANAGEMENT MEASURES

9.1. Water Waste Prevention Ordinances

The following are MCSD's water waste prohibitions as outlined in section 6 of Ordinance 10 MCSD rules and regulations for rationing and conservation of water.

No water furnished by the District shall be wasted. Waste of water includes, but is not limited to, the following:

- a) Permitting water to escape (run to waste) down a gutter, ditch, surface drain, or otherwise;
- b) Failure to repair a controllable leak of water; and
- c) Failure to put to reasonable beneficial use any water withdrawn from the District's system.

9.1.1. Metering

All water received and distributed throughout the MCSD service area is metered. HBMWD meters all water delivered to MCSD and bills the District monthly. In addition to the HBMWD meter, MCSD meters all water pumped through the North Bank Pump Station before entering the MCSD distribution system. This dual metering allows both MCSD and HBMWD to compare usages and detect any metering inaccuracies. HBMWD is currently in the process of calibrating the MCSD master meter to improve accuracy.

All customer sectors within the service area are metered and billed monthly. Though the District is fully metered many of the meters throughout the service area have reached their 18-year life span and are in the process of being replaced with new radio read meters. MCSD is expecting to have all residential, commercial, and institutional/government meters replaced to radio read meters by the end of 2017.

9.1.2. Conservation Pricing

MCSD has a tiered rate structure that meets the UWMP requirements for conservation pricing. MCSD uses to a two-tiered billing system with a variable cost of \$1.27 per CCF up to 800 cubic feet. Over 800 cubic feet is charged at \$3.16 per CCF (2015). For the years, 2000 thru 2005, MCSD customers averaged a usage of 120 GPCD. From 2006 thru 2010, that average dropped from 120 GPCD to 99 GPCD. In the year 2010, the GPCD was 94, continuing to trend downward.

9.1.3. Public Education and Outreach

MCSD has provided public outreach and education for service area customers in the following formats and media outlets.

- MCSD website provides links and information regarding MCSD drought rules for home and business water uses that are declared to be non-essential, State operated rebate programs, turf replacement rebates, and high efficiency toilet replacement program.
- MCSD Newsletter Articles were published informing customers of California/MCSD drought rules, rebate programs, and ways they can conserve water at home.
- Radio and news interviews: MCSD General Manager participated in “Talk Shop” interviews on water conservation efforts and programs.
- Radio Ads: In 2014 MCSD in cooperation with HBMWD and other regional retail providers recorded seven different 30 second radio ads each year highlighting different water conservation messages for broadcast on 3 radio stations over a six-month period

9.1.4. Programs to Assess and Manage Distribution System Real Loss

MCSD performs annual AWWA Water Loss Audits to assess real loss from the distribution system. Loss rates are very low for the District. Non-revenue water is only 5.6% of the volume

of water supplied and is only 2% of the cost of operating the water system. Real loss is managed by addressing any water leak as soon as they are identified.

9.1.5. Water Conservation Program Coordination and Staffing Support

MCSD employs 27 total full time personnel and does not have the capability of holding a position solely for a water conservation coordinator. At this time the General Manager is the point of contact for water conservation with various staff helping out.

9.2. Implementation of DMM's Over the past Five Years

Over the past five years MCSD has focused water conservation efforts on public education and outreach and programs to assess and manage distribution system real loss.

Public Education and Outreach - In the past five years MCSD has coordinated public education and outreach with the other regional water retailers that are supplied water by HBMWD. This coordinated outreach included a series of radio announcements that promote water conservation and staffing a booth at the Humboldt County Fair that promotes water conservation. Details are noted below:

- Recorded 7 different 30-second radio ads highlighting different water conservation messages for broadcast on 3 radio stations over a six-month period (May-Oct 2014 and 2015);
- Staffing a booth at the Humboldt County Fair that promotes water conservation (2014 and 2015); and
- Made water conservation presentations to various local civic groups such as local Daughters of the America Revolution; Soroptomist International of Eureka.

9.3. Planned Implementation to Achieve Water Use Targets

MCSD is meeting their water use targets by a significant margin. MCSD will continue their program to assess and manage distribution system real loss and will continue public education and outreach activities to further assure that they will meet the 2020 water use targets. MCSD will monitor their GPCD annually while performing their annual AWWA water loss audits. If the MCSD GPCD begins to increase, further conservation programs will be implemented.

10. PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

The MCSD 2015 UWMP has been prepared in accordance with the CWC and the 2015 Urban Water Management Plan Guidebook for Urban Water Suppliers. MCSD has included water use and planning data for the entire year 2015.

10.1. Notice of Public Hearing

MCSD shall hold a public hearing prior to adopting the UWMP. MCSD provided written notice of their UWMP review and updating at least 60 days prior to the public hearing to the water wholesaler HBMWD, Humboldt County, City of Arcata, City of Eureka, City of Blue Lake, Fieldbrook-Glendale CSD, and Manila CSD. A copy of the 60-day notice letter is included as Appendix F.

The public hearing provides an opportunity for the public and cities and counties to provide input to the plan before it is adopted. The notice will include the time and place of the public hearing and where the 2015 UWMP can be viewed with contact information of the preparer. The public hearing notices will be published at least 15 days in advance in the local newspaper, and on the MCSD board agenda that is posted throughout the community.

10.2. Public Hearing and Adoption

The public hearing will be held during a regularly scheduled MCSD Board meeting, the first Wednesday of the month, the month prior to plan adoption. During the public hearing MCSD staff will provide information regarding baseline values, water-use targets, and implementation plan to achieve targets and goals.

The adoption hearing for the 2015 UWMP will take place the board meeting following the public hearing to allow time for the inclusion of comments and revisions. During the adoption hearing the MCSD board of Directors will formally vote to adopt the plan.

The MCSD's 2015 UWMP, was adopted by the MCSD Board of Directors on _____, 2016 by Resolution 2016-____ (Appendix _____), and will be submitted to the DWR by July 1, 2016.

10.3. Plan Submittal

MCSD shall submit their 2015 UWMP to the following agencies and locations:

- California Department of Water Resources: The MCSD 2015 UWMP shall be submitted to DWR within 30 days of adoption and by July 1, 2015.
- Electronic Data Submittal: MCSD shall submit a copy of the adopted 2015 UWMP to the DRW online submittal tool, WUEdata. All data from the standardized tables shall be uploaded to through the online tool as well.
- California State Library: No later than 30 days, MCSD shall submit a CD or hardcopy of the adopted 2015 UWMP to the California State Library.
 - California State Library
Government Publications Section
P.O. Box 942837 Sacramento, CA 94237
Attn: Coordinator, Urban Water Management Plans

10.4. Public Availability

MCSD shall make available a copy of the 2015 UWMP for public review. The UWMP will be available in digital format on the MCSD website and a hard copy will be made available for public review at the MCSD office.

McKinleyville Community Services District
1656 Sutter Rd.
McKinleyville, CA 95519

Page Left Blank Intentionally

References

Humboldt County General Plan Update Draft Environmental Impact Report. Prepared by Humboldt County Staff. April 2012.

<http://humboldt.gov/626/Draft-Environmental-Impact-Report-EIR>

Mad River Watershed Assessment. Prepared by Stillwater Sciences for Redwood Community Action Agency, June 2010.

<http://www.stillwatersci.com/resources/2010madriverwatershedassessment.pdf>

McKinleyville Community Plan, Humboldt County General Plan Volume II, Prepared by Humboldt County Staff, 2002.

<http://www.humboldt.gov/205/Plans>

MCSD Wastewater Facilities Plan Administrative Draft. SHN Consulting Engineers and Geologists, Inc. January 2012

<http://mckinleyvillecsd.com/document-library/20%20Year%20Facilities%20Plan>

MCSD Water Model Technical Report. Prepared by MCSD Staff reviewed by SHN Consulting Engineers and Geologists, Inc. July 2012.

<http://mckinleyvillecsd.com/sites/mckinleyvillecsd.com/files/documents/Water%20Distribution%20Model%20Executive%20Summary.pdf>

Page Left Blank Intentionally

APPENDIX A

2015 UWMP Standardized Tables

Revised 1-25-2016

Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015
1210016	McKinleyville CSD	5517	434,915,018
TOTAL		5517	434915018
NOTES:			

Table 2-2: Plan Identification	
<input checked="" type="checkbox"/>	Individual UWMP
<input type="checkbox"/>	Regional UWMP (RUWMP) <i>(checking this triggers the next line to appear)</i>
	Choose One:
<input type="checkbox"/>	RUWMP includes a Regional Alliance
<input type="checkbox"/>	RUWMP does not include a Regional Alliance
NOTES:	

Table 2-3: Agency Identification	
Type of Agency (select one or both)	
<input type="checkbox"/>	Agency is a wholesaler
<input checked="" type="checkbox"/>	Agency is a retailer
Fiscal or Calendar Year (select one)	
<input checked="" type="checkbox"/>	UWMP Tables Are in Calendar Years
<input type="checkbox"/>	UWMP Tables Are in Fiscal Years
If Using Fiscal Years Provide Month and Day that the Fiscal Year Begins	
Day	Month
Units of Measure Used in UWMP (select one)	
<input type="checkbox"/>	Acre Feet (AF)
<input checked="" type="checkbox"/>	Million Gallons (MG)
<input type="checkbox"/>	Hundred Cubic Feet (CCF)
NOTES:	

Table 2-4 Retail: Water Supplier Information Exchange	
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.	
Wholesale Water Supplier Name	
Humboldt Bay Municipal Water District	
NOTES:	

Table 3-1 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040(opt)
	16,103	16,758	17,439	18,147	18,885	19,653
NOTES: Derived from US Census Data						

Table 4-1 Retail: Demands for Potable and Raw Water - Actual			
Use Type	2015 Actual		
	Additional Description (as needed)	Level of Treatment When Delivered	Volume
Single Family		Drinking Water	302.609332
Multi-Family		Drinking Water	78.372320
Commercial		Drinking Water	22.868575
Institutional/Governmental		Drinking Water	13.697711
Landscape		Drinking Water	5.728202
Losses	<i>From AWWA worksheet</i>	Drinking Water	4.110000
Sales/Transfers/Exchanges to other agencies	<i>to City of Arcata</i>	Drinking Water	7.528878
Other	<i>Bulk Water Sales</i>	Drinking Water	1.596445
TOTAL			434.915018
NOTES:			

Table 4-2 Retail: Demands for Potable and Raw Water - Projected						
Use Type	Additional Description (as needed)	Projected Water Use				
		Records are Available				Report To the Extent that
		2020	2025	2030	2035	2040-opt
Single Family		361.528114	376.222475	391.514090	407.427236	423.987173
Multi-Family		95.506333	100.876022	106.547613	112.538081	118.865352
Commercial		45.859540	48.437918	51.161262	54.037721	57.075905
Institutional/Governmental		13.973865	14.255587	14.542989	14.836185	15.135292
Landscape		5.843686	5.961498	6.081686	6.204297	6.329379
Sales/Transfers/Exchanges to other agencies		7.680665	7.835512	7.993481	8.154634	8.319037
Other	Bulk Water Sales	1.628630	1.661464	1.694960	1.729132	1.763992
TOTAL		532.020833	555.250476	579.536081	604.927286	631.476130
NOTES:						

Table 4-3 Retail: Total Water Demands						
	2015	2020	2025	2030	2035	2040 (opt)
Potable and Raw Water <i>From Tables 4-1 and 4-2</i>	434.915018	532.020833	555.250476	579.536081	604.927286	631.47613
Recycled Water Demand <i>From Table 6-4</i>	96.700000	102.000000	108.000000	114.000000	120.000000	120.000000
TOTAL WATER DEMAND	531.615018	634.020833	663.250476	693.536081	724.927286	751.47613
NOTES:						

Table 4-4 Retail: Water Loss Summary Most Recent 12 Month Period Available (as calculated in Appendix L worksheet)	
Reporting Period Start Date (Month/Year)	Loss
January 2015- December 2015	4.115
NOTES: Million Galons	

Table 6-1 Retail: Groundwater Volume Pumped

<input checked="" type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type	Location or Basin Name	2011	2012	2013	2014	2015
TOTAL		0	0	0	0	#REF!
NOTES:						

Table 6-2 Retail: Wastewater Collected Within Service Area in 2015

Percentage of 2015 service area covered by wastewater collection system <i>(optional)</i>						85
Percentage of 2015 service area population covered by wastewater collection system <i>(optional)</i>						85
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? <i>Drop Down List</i>	Volume of Wastewater Collected in 2015	Receiving Wastewater Treatment			
			Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? <i>Drop Down List</i>	Is WWTP Operation Contracted to a Third Party? <i>(optional)</i> <i>Drop Down List</i>
McKinleyville CSD	Metered	320.30	McKinleyville CSD	WWMF	Yes	No
Total Wastewater Collected from Service Area in 2015:		320.30				
NOTES: WWMF = Wastewater Management Facility						

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2015

<input type="checkbox"/>	No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.									
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number (optional)	Method of Disposal <i>Drop down list</i>	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level <i>Drop down list</i>	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
WWMF	Mad River		1B820840HUM	River or creek outfall	No	Secondary, Disinfected - 23	320.30	163.40	0.00	0
WWMF	Percolation Ponds		1B820840HUM	Percolation ponds	No	Secondary, Disinfected - 23	0.00	60.20	0.00	0
WWMF	Lower Fischer Ranch		1B820840HUM	Land disposal	No	Secondary, Disinfected - 23	0.00	0.00	7.60	0
WWMF	Upper Fischer Ranch		1B820840HUM	Land disposal	No	Secondary, Disinfected - 23	0.00	0.00	66.50	0
WWMF	Hiller Storm Water Treatment Wetland and Forested Area		1B820840HUM	Land disposal	No	Secondary, Disinfected - 23	0.00	0.00	0.00	0
WWMF	Pialorsi Ranch		1B820840HUM	Land disposal	No	Secondary, Disinfected - 23	0.00	0.00	22.60	0
Total							320.30	223.60	96.70	0
NOTES:										

Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area*

<input type="checkbox"/>		Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.							
Name of Agency Producing (Treating) the Recycled Water:			McKinleyville CSD						
Name of Agency Operating the Recycled Water Distribution System:			McKinleyville CSD						
Supplemental Water Added in 2015			No						
Source of 2015 Supplemental Water			No						
Beneficial Use Type	General Description of 2015 Uses		Level of Treatment	2015	2020	2025	2030	2035	2040 (opt)
Agricultural irrigation	Irrigated for growing fodder crops		Secondary, Disinfected - 23	96.70	102	108	114	120	
Landscape irrigation (exc golf courses)									
Golf course irrigation									
Commercial use									
Industrial use									
Geothermal and other energy production									
Seawater intrusion barrier									
Recreational impoundment									
Wetlands or wildlife habitat									
Groundwater recharge (IPR)									
Surface water augmentation (IPR)									
Direct potable reuse									
Other	Type of Use								
			Total:	96.70	102	108	114	120	0
IPR - Indirect Potable Reuse									
* This may include use outside the the UWMP area that is NOT included in another UWMP area. It is to be noted in the general description cell.									
NOTES:									

Table 6-5 Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual

<input type="checkbox"/>	Recycled water was not used in 2010 nor projected for use in 2015. The supplier will not complete the table below.	
Use Type	2010 Projection for 2015	2015 actual use
Agricultural irrigation		96.7
Landscape irrigation (exc golf courses)		
Golf course irrigation		
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Surface water augmentation (IPR)		
Direct potable reuse		
Other	<i>Type of Use</i>	
Total		0
NOTES:		

Table 6-6 Retail: Methods to Expand Future Recycled Water Use

Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
Total			0
NOTES: Currently there are no plans to expand future recycled water use.			

Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
<input checked="" type="checkbox"/>	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
<input type="checkbox"/>	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format. LOCATION OF THE NARRATIVE _____					
Name of Future Projects or Programs	Joint Project with other agencies?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type <i>Drop Down List User may select more than one.</i>	Expected Increase in Water Supply to Agency
	<i>Drop Down List</i>					
	<i>No</i>	<i>If Yes, Agency Name</i>				
NOTES:						

Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2015		
		Actual Volume	Water Quality	Total Right or Safe Yield (optional)
Purchased or Imported Water	HBMWD	434.915	Drinking Water	1022
Total		434.915		1022
NOTES:				

Table 6-9 Retail: Water Supplies — Projected											
Water Supply	Additional Detail on Water Supply	Projected Water Supply <i>Report To the Extent Practicable</i>									
		2020		2025		2030		2035		2040 (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Purchased or Imported Water		1,022		1,022		1,022		1,022			
Total		1022	0	1022	0	1022	0	1022	0	0	0
NOTES:											

Table 7-1 Retail: Bases of Water Year Data			
Year Type	Base Year	Available supplies if year type repeats	
		Agency may complete these columns for volume only, percent only, or both	
		Volume available	% of avg supply
Average Year	1989	1,022	100%
Single-Dry Year	1977	1,022	100%
Multiple-Dry Years 1st Year	1990	1,022	100%
Multiple-Dry Years 2nd Year	1991	1,022	100%
Multiple-Dry Years 3rd Year	1992	1,022	100%
NOTES: Average year volume chosen based on average annual Mad River watershed discharges from 1963-2015.			

Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals (autofill fm Table 6-9)	1,022	1,022	1,022	1,022	1,022
Demand totals (autofill fm Table 4-3)	634.021	663.250	693.536	724.927	751.476
Difference	388	359	328	297	271
NOTES:					

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals	1,022	1,022	1,022	1,022	1,022
Demand totals	634.021	663.250	693.536	724.927	751.476
Difference	388	359	328	297	271
NOTES:					

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison

		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	1,022	1,022	1,022	1,022	
	Demand totals	663.250476	693.536081	724.927286	751.47613	
	Difference	359	328	297	271	0
Second year	Supply totals	1,022	1,022	1,022	1,022	
	Demand totals	663.250476	693.536081	724.927286	751.476130	
	Difference	359	328	297	271	0
Third year	Supply totals	1,022	1,022	1,022	1,022	
	Demand totals	663.250476	693.536081	724.927286	751.476130	
	Difference	359	328	297	271	0

NOTES:

Table 8-1 Retail : Stages of WSCP

Stage	Complete One or Both	
	Percent Supply Reduction ¹	Water Supply Condition
1	20	Voluntary Conservation: Achieve up to 20% reduction in water usage compared to the corresponding billing period in the previous calendar year (prior to declaration of the most recent water shortage emergency) by encouraging voluntary conservation, enforcement of water wasting regulations and water conservation regulations, requesting customers to make conscious efforts to conserve water, request restaurants to serve water only upon request, encourage private sector to use alternate source and encourage night irrigation.
2	30	Mandatory Conservation (up to 30% reduction): From and after the date that the Board of Directors, by resolution, determines that Stage 2, Mandatory Conservation actions are to be implemented, in addition to the voluntary action in Stage 1.
3	50	Emergency Water Shortage (up to 50% reduction): From and after the date that the Board of Directors, by resolution, determines that Stage 3, Emergency Water Shortage actions are to be implemented.
4	>50	Critical Water Shortage Emergency Mandatoy Rationing (> 50% rationing): From and after the date that the Board of Directors, by resolution, determines that Stage 4, Critical Water Shortage Emergency actions are to be implemented.
¹ One stage in the WSCP must address a water shortage of 50%.		
NOTES:		

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses

Stage	Restrictions and Prohibitions on End Users	Additional Explanation or Reference (optional)	Penalty, Charge, or Other Enforcement? <i>Drop Down List</i>
2	Landscape - Restrict or prohibit runoff from landscape irrigation	Section 8.3	Yes
2	Landscape - Limit landscape irrigation to specific days	Section 8.3	Yes
2	Landscape - Prohibit certain types of landscape irrigation	Section 8.3	Yes
3	Landscape - Prohibit all landscape irrigation	Section 8.3	Yes
3	CII - Lodging establishment must offer opt out of linen service	Section 8.3	Yes
1	CII - Restaurants may only serve water upon request	Section 8.3	Yes
2	Water Features - Restrict water use for decorative water features, such as fountains	Section 8.3	Yes
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Section 8.3	Yes
1	Other - Require automatic shut of hoses	Section 8.3	Yes
2	Other - Prohibit use of potable water for washing hard surfaces	Section 8.3	Yes

Table 8-3 Retail Only: Stages of WSCP - Consumption Reduction Methods

Stage	Consumption Reduction Methods by Water Supplier	Additional Explanation or Reference <i>(optional)</i>
All	Expand Public Information Campaign	MCSD has created fliers, added inserts to bills and newsletter, published articles, and provided links to information and rebate programs on the website.
All	Improve Customer Billing	Over the past five-years MCSD has changed how they collect, store and report water usage and billing data. For example; what used to be residential usage is now broken out into single-family usage and multi-family usage. This separation in billing allows MCSD to compare actual usage to average usage for each sector.
All	Reduce System Water Loss	MCSD reduces system water loss by conducting the AWWA water loss audit annually, through monthly inspection programs and by performing field verification of suspected leaks and known trouble areas.
All	Increase Water Waste Patrols	MCSD has trained meter reader to look for violations of prohibited end-use of water. These employees are equipped with fliers and information reminding customers of prohibited uses and the penalties for being in violation.
All	Other	In 2013 MCSD received a grant to initiate a full service area meter replacement program. With several of the customer meters reaching the end of their 18-year life cycle MCSD is working to have all meters within the service area replaced with more accurate radio read meters. Expected completion is 2017.
NOTES:		

Table 8-4 Retail: Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply	1,022	1,022	1,022
NOTES:			

Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Humboldt Bay Municipal Water District	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
City of Arcta	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
City of Eureka	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
City of Blue Lake	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Fieldbrook-Glendale CSD	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Manila CSD	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
County Name	60 Day Notice	Notice of Public Hearing
Humboldt County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
NOTES:		

APPENDIX B

SBX7-7 Tables

Revised 1-25-2016

SB X7-7 Table 0: Units of Measure Used in UWMP* (select one from the drop down list)
Million Gallons
<i>*The unit of measure must be consistent with Table 2-3</i>
NOTES:

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	530	Million Gallons
	2008 total volume of delivered recycled water	-	Million Gallons
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period ^{1, 2}	10	Years
	Year beginning baseline period range	1996	
	Year ending baseline period range ³	2005	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range ⁴	2007	
¹ If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period.			
² The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.			
³ The ending year must be between December 31, 2004 and December 31, 2010.			
⁴ The ending year must be between December 31, 2007 and December 31, 2010.			
NOTES:			

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
<input checked="" type="checkbox"/>	1. Department of Finance (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
<input checked="" type="checkbox"/>	2. Persons-per-Connection Method
<input type="checkbox"/>	3. DWR Population Tool
<input checked="" type="checkbox"/>	4. Other DWR recommends pre-review
NOTES: Service Units Method Approved by DWR 3-14-2015	

SB X7-7 Table 3: Service Area Population		
Year		Population
10 to 15 Year Baseline Population		
Year 1	1996	12,242
Year 2	1997	12,566
Year 3	1998	12,899
Year 4	1999	13,241
Year 5	2000	13,599
Year 6	2001	13,706
Year 7	2002	13,818
Year 8	2003	13,932
Year 9	2004	14,044
Year 10	2005	14,160
5 Year Baseline Population		
Year 1	2003	13,932
Year 2	2004	14,044
Year 3	2005	14,160
Year 4	2006	14,271
Year 5	2007	14,376
2015 Compliance Year Population		
2015		16,103
NOTES:		

SB X7-7 Table 4: Annual Gross Water Use *

Baseline Year <i>Fm SB X7-7 Table 3</i>		Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	Deductions					Annual Gross Water Use
			Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>	
10 to 15 Year Baseline - Gross Water Use								
Year 1	1996	543			-		-	543
Year 2	1997	545			-		-	545
Year 3	1998	533			-		-	533
Year 4	1999	540			-		-	540
Year 5	2000	529			-		-	529
Year 6	2001	561			-		-	561
Year 7	2002	575			-		-	575
Year 8	2003	574			-		-	574
Year 9	2004	595			-		-	595
Year 10	2005	574			-		-	574
10 - 15 year baseline average gross water use								557
5 Year Baseline - Gross Water Use								
Year 1	2003	574			-		-	574
Year 2	2004	595			-		-	595
Year 3	2005	574			-		-	574
Year 4	2006	545			-		-	545
Year 5	2007	556			-		-	556
5 year baseline average gross water use								569
2015 Compliance Year - Gross Water Use								
2015		435	-		-		-	435
* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3								
NOTES:								

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source		Humboldt Bay Municipal Water District		
This water source is:				
<input type="checkbox"/>		The supplier's own water source		
<input checked="" type="checkbox"/>		A purchased or imported source		
Baseline Year <i>Fm SB X7-7 Table 3</i>		Volume Entering Distribution System	Meter Error Adjustment <i>* Optional (+/-)</i>	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1996	543.35		543
Year 2	1997	545.23		545
Year 3	1998	532.51		533
Year 4	1999	539.87		540
Year 5	2000	529.22		529
Year 6	2001	560.56		561
Year 7	2002	574.62		575
Year 8	2003	573.87		574
Year 9	2004	594.61		595
Year 10	2005	573.88		574
5 Year Baseline - Water into Distribution System				
Year 1	2003	573.87		574
Year 2	2004	594.61		595
Year 3	2005	573.88		574
Year 4	2006	545.40		545
Year 5	2007	555.85		556
2015 Compliance Year - Water into Distribution System				
2015		435.00		435
<i>* Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document</i>				
NOTES:				

SB X7-7 Table 4-B: Indirect Recycled Water Use Deduction (For use only by agencies that are deducting indirect recycled water)

Baseline Year <i>Fm SB X7-7 Table 3</i>		Surface Reservoir Augmentation					Groundwater Recharge			Total Deductible Volume of Indirect Recycled Water Entering the Distribution System
		Volume Discharged from Reservoir for Distribution System Delivery	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/ Treatment Loss	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility*	Transmission/ Treatment Losses	Recycled Volume Entering Distribution System from Groundwater Recharge	
10-15 Year Baseline - Indirect Recycled Water Use										
Year 1	1996		0%	-		-			-	-
Year 2	1997		0%	-		-			-	-
Year 3	1998		0%	-		-			-	-
Year 4	1999		0%	-		-			-	-
Year 5	2000		0%	-		-			-	-
Year 6	2001		0%	-		-			-	-
Year 7	2002		0%	-		-			-	-
Year 8	2003		0%	-		-			-	-
Year 9	2004		0%	-		-			-	-
Year 10	2005		0%	-		-			-	-
5 Year Baseline - Indirect Recycled Water Use										
Year 1	2003		0%	-		-			-	-
Year 2	2004		0%	-		-			-	-
Year 3	2005		0%	-		-			-	-
Year 4	2006		0%	-		-			-	-
Year 5	2007		0%	-		-			-	-
2015 Compliance - Indirect Recycled Water Use										
2015			0%	-		-			-	-
<i>*Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this</i>										
NOTES:										

SB X7-7 Table 4-C: Process Water Deduction Eligibility

(For use only by agencies that are deducting process water) Choose Only One

<input type="checkbox"/>	Criteria 1- Industrial water use is equal to or greater than 12% of gross water use. Complete SB X7-7 Table 4-C.1
<input type="checkbox"/>	Criteria 2 - Industrial water use is equal to or greater than 15 GPCD. Complete SB X7-7 Table 4-C.2
<input checked="" type="checkbox"/>	Criteria 3 - Non-industrial use is equal to or less than 120 GPCD. Complete SB X7-7 Table 4-C.3
<input checked="" type="checkbox"/>	Criteria 4 - Disadvantaged Community. Complete SB x7-7 Table 4-C.4

NOTES:

SB X7-7 Table 4-C.1: Process Water Deduction Eligibility

Criteria 1

Industrial water use is equal to or greater than 12% of gross water use

Baseline Year <i>Fm SB X7-7 Table 3</i>		Gross Water Use Without Process Water Deduction	Industrial Water Use	Percent Industrial Water	Eligible for Exclusion Y/N
10 to 15 Year Baseline - Process Water Deduction Eligibility					
Year 1	1996	543		0%	NO
Year 2	1997	545		0%	NO
Year 3	1998	533		0%	NO
Year 4	1999	540		0%	NO
Year 5	2000	529		0%	NO
Year 6	2001	561		0%	NO
Year 7	2002	575		0%	NO
Year 8	2003	574		0%	NO
Year 9	2004	595		0%	NO
Year 10	2005	574		0%	NO
5 Year Baseline - Process Water Deduction Eligibility					
Year 1	2003	574		0%	NO
Year 2	2004	595		0%	NO
Year 3	2005	574		0%	NO
Year 4	2006	545		0%	NO
Year 5	2007	556		0%	NO
2015 Compliance Year - Process Water Deduction Eligibility					
2015		435		0%	NO
NOTES:					

SB X7-7 Table 4-C.2: Process Water Deduction Eligibility

Criteria 2

Industrial water use is equal to or greater than 15 GPCD

Baseline Year <i>Fm SB X7-7 Table 3</i>	Industrial Water Use	Population	Industrial GPCD	Eligible for Exclusion Y/N
10 to 15 Year Baseline - Process Water Deduction Eligibility				
Year 1	1996		12,242	- NO
Year 2	1997		12,566	- NO
Year 3	1998		12,899	- NO
Year 4	1999		13,241	- NO
Year 5	2000		13,599	- NO
Year 6	2001		13,706	- NO
Year 7	2002		13,818	- NO
Year 8	2003		13,932	- NO
Year 9	2004		14,044	- NO
Year 10	2005		14,160	- NO
5 Year Baseline - Process Water Deduction Eligibility				
Year 1	2003		13,932	- NO
Year 2	2004		14,044	- NO
Year 3	2005		14,160	- NO
Year 4	2006		14,271	- NO
Year 5	2007		14,376	- NO
2015 Compliance Year - Process Water Deduction Eligibility				
2015			16,103	- NO
NOTES:				

Criteria 3
Non-industrial use is equal to or less than 120 GPCD

10 to 15 Year Baseline - Process Water Deduction Eligibility

5 Year Baseline - Process Water Deduction Eligibility									
---	--	--	--	--	--	--	--	--	--

2015 Compliance Year - Process Water Deduction Eligibility

NOTES:

SB X7-7 Table 4-C.4: Process Water Deduction Eligibility					
Criteria 4					
Disadvantaged Community. A "Disadvantaged Community" (DAC) is a community with a median household income less than 80 percent of the statewide average.					
SELECT ONE					
"Disadvantaged Community" status was determined using one of the methods listed below:					
<input type="checkbox"/> 1. IRWM DAC Mapping tool http://www.water.ca.gov/irwm/grants/resources_dac.cfm					
If using the IRWM DAC Mapping Tool, include a screen shot from the tool showing that the service area is considered a DAC.					
<input checked="" type="checkbox"/> 2. 2010 Median Income					
California Median Household Income		Service Area Median Household Income	Percentage of Statewide Average	Eligible for Exclusion? Y/N	
2015 Compliance Year - Process Water Deduction Eligibility					
2010	\$60,883	\$47,120	77%	YES	
NOTES:					

SB X7-7 Table 4-D: Process Water Deduction - Volume						
Complete a separate table for each industrial customer with a process water exclusion						
Name of Industrial Customer		Industrial Customer 1				
Baseline Year <i>Fm SB X7-7 Table 3</i>	Industrial Customer's Total Water Use	Total Volume Supplied by Water Agency	% of Water Supplied by Water Agency	Customer's Total Process Water Use	Volume of Process Water Eligible for Exclusion for this Customer	
10 to 15 Year Baseline - Process Water Deduction						
Year 1	1996					-
Year 2	1997					-
Year 3	1998					-
Year 4	1999					-
Year 5	2000					-
Year 6	2001					-
Year 7	2002					-
Year 8	2003					-
Year 9	2004					-
Year 10	2005					-
5 Year Baseline - Process Water Deduction						
Year 1	2003					-
Year 2	2004					-
Year 3	2005					-
Year 4	2006					-
Year 5	2007					-
2015 Compliance Year - Process Water Deduction						
2015						-
NOTES:						

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Annual Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1996	12,242	543	122
Year 2	1997	12,566	545	119
Year 3	1998	12,899	533	113
Year 4	1999	13,241	540	112
Year 5	2000	13,599	529	107
Year 6	2001	13,706	561	112
Year 7	2002	13,818	575	114
Year 8	2003	13,932	574	113
Year 9	2004	14,044	595	116
Year 10	2005	14,160	574	111
10-15 Year Average Baseline GPCD				114
5 Year Baseline GPCD				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use
Year 1	2003	13,932	574	113
Year 2	2004	14,044	595	116
Year 3	2005	14,160	574	111
Year 4	2006	14,271	545	105
Year 5	2007	14,376	556	106
5 Year Average Baseline GPCD				110
2015 Compliance Year GPCD				
2015		16,103	435	74
NOTES:				

SB X7-7 Table 6: Gallons per Capita per Day
Summary From Table SB X7-7 Table 5

10-15 Year Baseline GPCD	114
5 Year Baseline GPCD	110
2015 Compliance Year GPCD	74
NOTES:	

SB X7-7 Table 7: 2020 Target Method
Select Only One

Target Method		Supporting Documentation
<input checked="" type="checkbox"/>	Method 1	SB X7-7 Table 7A
<input type="checkbox"/>	Method 2	SB X7-7 Tables 7B, 7C, and 7D <i>Contact DWR for these tables</i>
<input type="checkbox"/>	Method 3	SB X7-7 Table 7-E
<input type="checkbox"/>	Method 4	Method 4 Calculator
NOTES:		

SB X7-7 Table 7-A: Target Method 1
 20% Reduction

10-15 Year Baseline GPCD	2020 Target GPCD
114	91
NOTES:	

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target

5 Year Baseline GPCD <i>From SB X7-7 Table 5</i>	Maximum 2020 Target ¹	Calculated 2020 Target ²	Confirmed 2020 Target
110	105	91	91

¹ Maximum 2020 Target is 95% of the 5 Year Baseline GPCD

² 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.

NOTES:

SB X7-7 Table 8: 2015 Interim Target GPCD

Confirmed 2020 Target <i>Fm SB X7-7 Table 7-F</i>	10-15 year Baseline GPCD <i>Fm SB X7-7 Table 5</i>	2015 Interim Target GPCD
91	114	102
NOTES:		

SB X7-7 Table 9: 2015 Compliance

Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments <i>(in GPCD)</i>					2015 GPCD <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2015?
		Enter "0" if Adjustment Not Used			TOTAL Adjustments	Adjusted 2015 GPCD		
		Extraordinary Events	Weather Normalization	Economic Adjustment				
74	102	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	-	74	74	YES

NOTES:

APPENDIX C

AWWA Water Loss Audit Worksheet



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association.
Copyright © 2014. All Rights Reserved.

?	Click to access definition
+	Click to add a comment

Water Audit Report for: **McKinleyville Community Services District (CA1210016)**
Reporting Year: **2015** **1/2015 - 12/2015**

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

Volume from own sources: n/a 0.000 MG/Yr
Water imported: 10 455.879 MG/Yr
Water exported: n/a 0.000 MG/Yr

Master Meter and Supply Error Adjustments

Enter grading in column 'E' and 'J' -----
Pcnt: 4 3.600 MG/Yr
Value: 3.600 MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 452.279 MG/Yr

AUTHORIZED CONSUMPTION

Billed metered: 8 425.466 MG/Yr
Billed unmetered: 8 1.596 MG/Yr
Unbilled metered: 8 15 MG/Yr
Unbilled unmetered: 5.653 MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: 448.164 MG/Yr

Click here: ?
for help using option
buttons below

Pcnt: 1.25% MG/Yr

Use buttons to select
percentage of water
supplied
OR
value

Pcnt: 0.25% MG/Yr

MG/Yr
 0.25% MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

Apparent Losses

Unauthorized consumption: 1.131 MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: 8 0.000 MG/Yr
Systematic data handling errors: 1.064 MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 2.194 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 1.920 MG/Yr

WATER LOSSES: 4.115 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 25.216 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains: 10 87.3 miles
Number of active AND inactive service connections: 10 5,600
Service connection density: 64 conn./mile main

Are customer meters typically located at the curbside or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 10 65.0 psi

COST DATA

Total annual cost of operating water system: 8 \$2,471,429 \$/Year
Customer retail unit cost (applied to Apparent Losses): 9 \$6.58 \$/1000 gallons (US)
Variable production cost (applied to Real Losses): 7 \$1,537.00 \$/Million gallons ☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 85 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Unauthorized consumption

2: Systematic data handling errors

3: Variable production cost (applied to Real Losses)

APPENDIX D

MCSD Water Shortage Contingency Plan

**MCKINLEYVILLE COMMUNITY SERVICES DISTRICT
WATER SHORTAGE CONTINGENCY PLAN**

Prepared for:
Mr. Greg Orsini
McKinleyville Community Services District
1656 Sutter Road
McKinleyville, California 95519

March, 2015

Prepared by:
Orrin Plocher and Stan Thiesen
of



Freshwater Environmental Services

78 Sunny Brae Center
Arcata, California 95521
Phone (707) 839-0091

TABLE OF CONTENTS

LIST OF APPENDICES	ii
1.0 INTRODUCTION	1
1.1 Purpose	1
1.2 State Regulations and Planning Requirements	1
2.0 MCSD WATER SUPPLY	2
3.0 MCSD WATER DEMAND	3
4.0 ESTIMATED MINIMUM WATER SUPPLY FOR THE NEXT THREE YEARS	3
5.0 CATASTROPHIC INTERRUPTION OF WATER SUPPLY	4
6.0 STAGES OF ACTION FOR DEMAND REDUCTION.....	4
6.1 Rationing Stages and Demand Reduction Goals	4
6.2 Prohibitions on Water Use.....	5
6.3 Violations of Water Use Restrictions	6
7.0 ANALYSIS OF REVENUE AND EXPENDITURES IMPACTS	6
8.0 MONITORING PROCEDURES	7
9.0 WATER FEATURE INVENTORY	8

LIST OF APPENDICES

APPENDIX A	CALIFORNIA WATER CODE SECTION 350-359
APPENDIX B	CALIFORNIA WATER CODE SECTION 10632
APPENDIX C	WATER SHORTAGE CONTINGENCY ORDINANCE (MCSD ORDINANCE 10)

1.0 INTRODUCTION

McKinleyville Community Services District (MCSD, or the District) was created on April 7, 1970 when McKinleyville voters voted 589 "yes" votes against 151 "no" votes to form the District. Initially, the District had authority to serve water and treat sewer wastes. In 1972, the voters added street lighting powers, in 1985 the voters added recreational powers and in 1995 the voters authorized construction of the McKinleyville Library.

The District boundary encompasses 12,140 acres ranging from North Bank Road on the south to Patrick's Creek on the north. The District is an independent, special district governed by a five member Board of Directors elected by McKinleyville voters. The Board meets monthly on the first Wednesday of each month to set policy, consider projects and resolve disputes. The Board's directives are implemented by the District's 23 full-time and 42 part-time employees. The District office is located at 1656 Sutter Road; just east of Central Avenue. McKinleyville is the third largest community in Humboldt County after Eureka and Arcata with a population of 16,401 (2011). The MCSD currently have over 5,300 active water services. MCSD is proud of its record of solving problems. The Board has summed up its philosophy by adopting the following Mission Statement: "Provide McKinleyville with safe and reliable water, wastewater, lighting, open space, parks and recreation, and library services in an environmentally and fiscally responsible manner".

1.1 Purpose

MCSD has prepared this Water Shortage Contingency Plan as a response to California State Water Resources Control Board's Resolution 2014-0038, Emergency Regulation for Statewide Water Conservation, to prepare for potential future local, regional, and State water shortage conditions, and to fulfill a requirement of the Urban Water Management Planning Act.

1.2 State Regulations and Planning Requirements

The California Water Code contains two provisions for California water supplies related to water shortage contingency planning.

California Water Code Section 350-359 provides the authority for a governing body to declare water shortage emergencies (Appendix A). Upon the declaration of a water shortage emergency, the local agency is provided with broad powers to implement and enforce regulations and restrictions for managing water shortage conditions. Priority is given to water needed for domestic, sanitation and fire protection purposes. Discrimination is not allowed between water users using water for the same purpose or purposes.

The Urban Water Management Planning (UWMP) Act requires urban water suppliers to perform an urban water shortage contingency analysis that includes several elements (California Water Code §10632, contained in Appendix B). This Water Shortage Contingency Plan addresses each of the required elements in the urban water shortage contingency analysis.

2.0 MCSD WATER SUPPLY

The McKinleyville Community Services District has one source of water. The sole source of MCSD water is purchased from The Humboldt Bay Municipal Water District (HBMWD). The water delivered from the HBMWD to the MCSD is through a single transmission main under the Mad River. A waterline intertie with the City of Arcata water system under the Highway 101 bridge is maintained as an emergency connection. The City of Arcata also purchases water from HBMWD.

The water distributed by HBMWD is from Ruth Lake, which is located in Trinity County. The Mad River R.W. Matthews Dam, located at river mile 79, impounds water in Ruth Lake. The HBMWD manages releases from the dam to ensure sufficient supplies downstream throughout the year.

At HBMWD's Essex Operations Center located just northeast of Arcata, water is diverted and pumped to meet demand. Municipal water is pumped from an aquifer beneath the Mad River by four wells, called Ranney wells, situated within the riverbed at depths ranging from approximately 60 to 90 feet. Industrial water is diverted by a surface diversion facility.

HBMWD has appropriative water rights permits from the State Water Resources Control Board through the year 2029 for surface water storage and diversion. Diversion is accomplished in different ways for different uses as mentioned earlier.

HBMWD water rights permits allow it to store and divert a combined 75 million gallons a day (MGD) from the Mad River. This totals 84,000 Acre feet per year (AFY), which represents 8.5% of the average annual runoff (982,600 AFY) of the Mad River Basin for the period from 1963 to 2010 (average annual runoff data provided by USGS at Gage Station 1148100 on the Mad River near Arcata, CA).

The HBMWD operates Ruth Reservoir, a 48,000 acre foot reservoir about 79 miles east of the coastal areas. This reservoir impounds only about 3% of the watershed and fills at a very rapid rate in normal rainfall years. Approximately 11 MGD is delivered to the municipal/district customers and entitlement is limited by actions taken during water shortage emergencies. Of the delivered water, a peak flow rate of 2.8 MGD is committed to serve the MCSD customers.

The MCSD receives the water delivery at the North Bank Pump Station having a bank of three pumps. Standby disinfection is available at this site should the chlorine residual from delivered water drop below 0.2 parts per million. The District has two 1.5 Million gallons tanks, two 1.0 million gallon tanks, a 100,000 and 150,000 gallon tank and three booster stations throughout the distribution system.

3.0 MCSD WATER DEMAND

Based on 2013 data, the percent of sales volume by sector is indicated in the table below:

Sector	Demand Percent by Volume
Single family	67
Multi-family	18
Commercial	8
Industrial	
Institutional/governmental	
Landscape	
Other	6

Based on production and sales records, past, current and future water demand for the MCSD is approximately 520 million gallons of water a year to supply water to the McKinleyville CSD service area.

4.0 ESTIMATED MINIMUM WATER SUPPLY FOR THE NEXT THREE YEARS

According to the MCSD 2010 Urban Water Management Plan, the North Coast is one of the only areas in California with an abundance of water. Droughts, while severe climatically, have not resulted in the level of water supply shortfalls that other areas of California routinely experience. The drought of 1976/1977 was the only declared water emergency on the North Coast. During that event, Ruth Lake storage was 52% of normal average volume and rainfall in the Ruth Lake area was 42% of historical average. The drought came to an end with heavy rains during November 1977. Even during the only declared water emergency on the North Coast MCSD did not experience water supply restrictions. During this drought the MCSD supplies were sufficient to meet normal demand without restrictions.

The MCSD 2010 Urban Water Management Plan indicates that the driest three-year period was 1990, 1991, and 1992. During this period of time conditions requiring implementation of water shortage emergency did not exist, there were no restrictions on water supplied by the HBMWD and MCSD supplies were sufficient to meet normal demand without restrictions.

Based on the above historical information, MCSD projects that if the minimum water supply was available during each of the next three water years (based on the driest three-year historic sequence) there would be sufficient supply to meet normal demand without implementing water use restrictions.

5.0 CATASTROPHIC INTERRUPTION OF WATER SUPPLY

The California Safe Drinking Water Act mandates in Section 4029 that every public water system includes a Disaster Response Plan as part of their Emergency Notification Plan. This plan will outline the steps to be taken to maintain or return water service to the District's customers after a major disaster.

MCSD has prepared an Emergency Response Plan (ERP) dated December 19, 2011, which describes the actions the District will take during a catastrophic interruption of water supplies.

The water distribution system is susceptible to two types of emergency situations, earthquakes and contamination.

In the event of a major earthquake or groundwater contamination, a water shortage contingency plan would be implemented, which would include rationing of the water storage reservoirs. However, if an earthquake were substantial enough to damage the well casing, pumping system, distribution system, and reservoirs, the water supply would be decreased. In this case, another temporary water supply would need to be used including the Arcata intertie if Arcata is unaffected. Another option is to have water transported by truck from a nearby municipality.

6.0 STAGES OF ACTION FOR DEMAND REDUCTION

6.1 Rationing Stages and Demand Reduction Goals

MCSD's Water Shortage Contingency Plan consists of the following stages of rationing and demand reduction goals:

Stage	Demand Reduction Goals
Stage 1-Voluntary Conservation	20%
Stage 2-Mandatory Conservation	20-30%
Stage 3-Emergency Water Shortage	30-50%
Stage 4-Critical Water Shortage Emergency	>50%

The declaration of a specific stage of water shortage emergency will depend on several variables including:

- Statewide drought conditions;
- Local drought conditions;
- Allocation reductions from HBMWD; and
- State regulations, notices and orders.

Declaration of a Stage 4 water shortage emergency may also be triggered by a major catastrophic event that affects the ability of the District to meet anticipated demands. The decision regarding declaration of a specific Stage of water shortage emergency will

be based on conditions at the time, therefore the triggers are general to accommodate to a broad range of conditions.

6.2 Prohibitions on Water Use

During a Stage 1 water shortage voluntary water conservation is requested of all customers including the specific voluntary measures below:

- Use water efficient indoor devices.
- Use of hose-end shutoff nozzles on all garden and utility hoses.
- Refrain from washing cars, boats, trailers, or other vehicles except by hose with shutoff nozzle and bucket.
- Installation of low-flow shower heads, low-flush toilets, and faucet aerators.
- Promptly repair all leaks in plumbing fixtures, water lines, and sprinkler systems.

During a Stage 2 water shortage water use as indicated in the table below are nonessential and are restricted:

Outdoor irrigation of ornamental landscapes or turf with potable water is prohibited on odd numbered calendar days. Unattended automatic watering of any lawn, garden, landscaped area, tree, shrub or other plant except between the hours of 12:00 A	Outdoor irrigation of ornamental landscapes or turf with potable water is only allowed on Sundays, Tuesdays, Thursdays and Saturdays. M and 4:00 AM.
Washing sidewalks, driveways, parking areas, tennis courts, patios or other exterior paved areas except by public agency for the purpose of public safety.	
Application of potable water to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures.	
Use of potable water in a fountain or other decorative water feature, except where the water is part of a recirculation system.	
Watering any portion of a golf course other than the tees and greens except where private well or recycled water supply is used.	
Fire hydrant water unless authorized by the District, except by fire protection agencies for fire suppression purposes, or for other authorized uses including storm drain maintenance, and street sweeping purposes. Water/sewer flushing and fire flow testing are authorized only if coordinated and performed at the same time.	
The use of a hose that dispenses potable water to wash a motor vehicle or for any other purpose, except where the hose is fitted with a shutoff nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.	

During a Stage 3 water shortage emergency, in addition to the restricted water uses in earlier Stages, water uses indicated below are nonessential and are prohibited:

Outdoor irrigation is prohibited unless total water use is reduced by 50 % from the same billing period from the previous calendar year (prior to declaration of the most recent water shortage emergency).
Bulk water sales.
Any leaks that are not repaired within 24 hours after discovery.
Automated commercial car washes without a water recycling system.
Street cleaning or dust control with potable water.
Filling or to top off any swimming pools, outdoor spas, wading pools, and ornamental water features.
Use of water from a fire hydrant except for fighting fires and human consumption.
Watering any residential lawn, or any commercial or industrial area lawn maintained for aesthetic purposes, at any time of the day or night during the period of March 1, through September 30, when a Stage 3 is in progress.
Planting any new landscaping, except for designated drought resistant landscaping approved by the District.
Operating a hotel, motel or other commercial lodging establishment without offering patrons the option to forego the daily laundering of towels, sheets and linens.
Use of water for any outdoor washing purpose including commercial car washing, window washing, and paint preparation.
Washing of cars, boats, trailers, or other vehicles.

During a Stage 4 water shortage emergency, in addition to the restricted water uses in earlier stages, water uses indicated below are nonessential and are prohibited:

Agricultural irrigation.
Outdoor irrigation.
Any leaks that are not repaired immediately.

6.3 Violations of Water Use Restrictions

Fines and penalties and enforcement are established in Section 11 and Section 12 MCSD Ordinance 10 (Appendix C).

7.0 ANALYSIS OF REVENUE AND EXPENDITURES IMPACTS

During the implementation of the various water shortage emergency stages, there will be an impact on revenue and expenses for the District due to the anticipated demand reduction. The table below indicates the net impact on revenue given the various demand reduction scenarios. This is intended to be a general analysis of revenue impact and is based on the 2013-2014 annual budget.

2014-2015	FY 2014-2015	20%Volumetric Reduction	30%Volumetric Reduction	50%Volumetric Reduction
Revenue				
Annual Base Rate Revenue	\$ 1,005,194	\$ 1,005,194	\$ 1,005,194	\$ 1,005,194
Other Revenue	\$ 253,049	\$ 253,049	\$ 253,049	\$ 253,049
Annual Volumetric Revenue	\$ 1,928,230	\$ 1,542,584	\$ 1,349,761	\$ 964,115
Total Annual Revenue	\$ 3,186,473	\$ 2,800,827	\$ 2,608,004	\$ 2,222,358

Expenses	FY 2014-2015	20%Volumetric Reduction	30%Volumetric Reduction	50%Volumetric Reduction
Fixed Expenses (T&D and Admin)	\$ 813,518	\$ 813,518	\$ 813,518	\$ 813,518
Cost of Water	\$ 863,768	\$ 691,014	\$ 604,638	\$ 431,884
Power (3% of Total Expenses)	\$ 74,143	\$ 59,314	\$ 51,900	\$ 37,071
CIP Reserve	\$ 720,000	\$ 720,000	\$ 720,000	\$ 720,000
Total Annual Expense	\$ 2,471,429	\$ 2,283,847	\$ 2,190,056	\$ 2,002,474

Excess	\$ 715,044	\$ -	\$ -	\$ -
Anticipated Short Fall (12-months)	\$ -	\$ 198,064	\$ 297,096	\$ 495,160
Anticipated Short Fall (6-months)	\$ -	\$ 99,032	\$ 148,548	\$ 247,580
Anticipated Short Fall (3-months)	\$ -	\$ 49,516	\$ 74,274	\$ 123,790

The net impact on revenue depends on the stage of water shortage emergency and the duration of the water shortage event. The worst case scenario that is presented above is a 50% reduction in volumetric sales for a 12-month duration resulting in a \$495,160 shortfall. The more likely scenario is a 20% demand reduction for a three to six month duration resulting in a net reduction in revenue between \$49,516 and \$99,032.

The District has several options it can consider for handling the anticipated revenue impact including:

- Reduce funds allocated for the Capitol Improvements Funds (CIP) reserve, thereby reducing the CIP reserve fund and delaying implementation of CIP projects;
- During the next rate study develop a water shortage surcharge (rate structure) that automatically goes into effect upon declaration of a specific stage of water shortage emergency; or
- During the next rate study include the establishment of a water shortage emergency fund that will be available in the event of a water shortage emergency.

8.0 MONITORING PROCEDURES

During a declared water shortage emergency water production volumes will be reviewed monthly, including a calculation of Gallons Per Capita per Day (GPCD), and comparison to the same month of the year just prior to the declaration of a water shortage emergency.

9.0 WATER FEATURE INVENTORY

The District will initiate a survey that will inventory water features, and determine if any water features use potable water without a recirculation system. This section of the contingency plan will be updated when this data becomes available prior to the submittal of the 2015 Urban Water Management Plan as required.

APPENDIX E

MCSD Ordinance 10

ORDINANCE NO. 10

**AN ORDINANCE ESTABLISHING RULES AND REGULATIONS FOR RATIONING
WATER DURING A WATER SHORTAGE EMERGENCY AND ESTABLISHING
PENALTIES FOR VIOLATIONS THEREOF**

WHEREAS, Article X, Section 2 of the California Constitution declares that waters of the State are to be put to beneficial use, that waste, unreasonable use, or unreasonable method of use of water be prevented, and that water be conserved for the public welfare; and

WHEREAS, conservation of current water supplies and minimization of the effects of water supply shortages that are the result of drought are essential to the public health, safety and welfare; and

WHEREAS, regulation of the day or time of certain water use, manner of certain water use, design of rates, method of application of water for certain uses, installation and use of water-saving devices, provide an effective and immediately available means of conserving water; and

WHEREAS, California Government Code section 61100, subdivision (a) incorporates Water Code sections 71000 et seq., including section 71640, into the Community Service District Law; and

WHEREAS, California Water Code section 71610.5 authorizes the District to undertake a water conservation program to reduce water use and may require, as a condition of new service, that reasonable water-saving devices and water reclamation devices be installed to reduce water use; and

WHEREAS, pursuant to Water Code section 71640, municipal water districts may restrict the use of district water during a drought emergency or other water shortage condition and may prohibit the wastage of district water or the nonessential use of district water during such periods for any purpose other than household uses or other restricted uses as the District determines to be necessary; and

WHEREAS, pursuant to Water Code section 71641 and Government Code section 6061, the District must publish in a newspaper of general circulation any ordinance setting forth the restrictions, prohibitions, and exclusions determined to be necessary under Water Code section 71640 within 10 days after its adoption, even though the ordinance is effective upon adoption; and

WHEREAS, Water Code section 71644 establishes that, from the publication of an ordinance pursuant to section 71641 until the repeal of the ordinance or end of the emergency, it is a misdemeanor punishable by up to 30 days in county jail and/or a fine of up to \$600 for any person to use or apply water from the District contrary to or in violation of any restriction or prohibition; and

WHEREAS, the adoption and enforcement of a comprehensive water conservation program will allow the District to delay or avoid implementing measures such as water rationing or more restrictive water use regulations pursuant to a declared water shortage emergency as authorized by California Water Code sections 350 et seq.

BE IT ORDAINED BY the Board of Directors of the McKinleyville Community Services District as follows:

Section 1. Declaration of Water Shortage Emergency.

This ordinance is effective immediately upon adoption. The provisions of this chapter shall take effect whenever the District General Manager, upon engineering analysis of District water supplies, information received from the wholesale water provider, Humboldt Bay Municipal Water District (HBMWD), or due to regulatory requirements, notices, or orders, finds and determines that a water shortage emergency exists or is imminent within the MCSD water service area and a declaration of a water shortage is made by a resolution of the MCSD Board of Directors, and they shall remain in effect for the duration of the water shortage set forth in the resolution.

Section 2. Publication.

Within ten (10) days of adoption the District will publish in a newspaper of general circulation this ordinance setting forth the restrictions, prohibitions, and exclusions determined by the District to be necessary.

Section 3. Definitions.

For the purpose of this Ordinance the following terms, phrases, words, and their derivations shall have the meaning given herein. When not inconsistent with the context, words used in the present tense include the future; words in the plural number include the singular number. The word "shall" is always mandatory and not merely directory.

- a. "District" is McKinleyville Community Services District.
- b. "Board of Directors" is the elected Board of Directors of the McKinleyville Community Services District.
- c. "Customer" is any person using water supplied by the McKinleyville Community Services District.
- d. "Manager" is the General Manager of the McKinleyville Community Services District.
- e. "Person" is any person, firm, partnership, association, corporation, company, or organization of any kind.
- f. "Water" is water from the McKinleyville Community Services District.
- g. "Outdoor surface" is any patio, porch, veranda, driveway, or sidewalk.

Section 4. Application.

The provisions of this Ordinance shall apply to all customers using water both in and outside the McKinleyville Community Services District, regardless of whether any customer using water shall have a contract for water service with the McKinleyville Community Services District.

Section 5. Determination of Stage of Action Necessary.

This ordinance establishes regulations to be implemented during times of declared water shortages, or declared water shortage emergencies. It establishes four levels of response actions to be implemented in times of shortage, as set forth in Section 7, below, with increasing restrictions on water use in response to worsening drought conditions or decreasing available supplies. The MCSD Board of Directors, upon recommendation by the Manager, shall determine and declare by resolution the stage of response action necessary. Notice of such determination shall be published in a newspaper of general circulation and shall be effective within five (5) days from the date the declaration is made.

Section 6. Waste of Water Prohibited

No water furnished by the District shall be wasted. Waste of water includes, but is not limited to, the following:

- a. Permitting water to escape (run to waste) down a gutter, ditch, surface drain, or otherwise;
- b. Failure to repair a controllable leak of water; and
- c. Failure to put to reasonable beneficial use any water withdrawn from the District's system.

Section 7. Prohibition of Non-Essential Use of Water

No water furnished by the District shall be used for any purpose declared to be non-essential by this Ordinance for the following stages of action as determined by the Board of Directors after considering specific triggers consistent with the Water Shortage Contingency Plan for the MCSD Service Area.

Stage 1 - Voluntary Conservation (up to 20% reduction). Achieve up to 20% reduction in water usage compared to the corresponding billing period in the previous calendar year (prior to declaration of the most recent water shortage emergency) by encouraging voluntary conservation, enforcement of water wasting regulations and water conservation regulations, requesting customers to make conscious efforts to conserve water, request restaurants to serve water only upon request, encourage private sector to use alternate source and encourage night irrigation. Voluntary actions include:

Water conservation is requested of all customers.
Installation and use of water efficient indoor devices.
Use of hose-end shutoff nozzles on all garden and utility hoses.

Refrain from washing cars, boats, trailers, or other vehicles except by hose with shutoff nozzle and bucket.
Installation of low-flow shower heads, low flush water closets, and faucet aerators.
Promptly repair all leaks in plumbing fixtures, water lines, and sprinkler systems.

Stage 2 - Mandatory Conservation (up to 30% reduction)

d. From and after the date that the Board of Directors, by resolution, determines that Stage 2, Mandatory Conservation actions are to be implemented, in addition to the voluntary action is Stage 1, the following uses are declared to be non-essential:

<u>Outdoor irrigation of ornamental landscapes or turf with potable water is only allowed on Sundays, Tuesdays, Thursdays and Saturdays.</u>
Washing sidewalks, driveways, parking areas, tennis courts, patios or other exterior paved areas except by public agency for the purpose of public safety.
Application of potable water to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures.
Use of potable water in a fountain or other decorative water feature, except where the water is part of a recirculation system.
Watering any portion of a golf course other than the tees and greens except where private well or recycled water supply is used.
Fire hydrant water unless authorized by the District, except by fire protection agencies for fire suppression purposes, or for other authorized uses including storm drain maintenance, and street sweeping purposes. Water/sewer flushing and fire flow testing are authorized only if coordinated and performed at the same time.
The use of a hose that dispenses potable water to wash a motor vehicle or for any other purpose, except where the hose is fitted with a shutoff nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.

Stage 3 – Emergency Water Shortage (up to 50% reduction)

e. From and after the date that the Board of Directors, by resolution, determines that Stage 3, Emergency Water Shortage actions are to be implemented, the following additional uses are declared to be non-essential:

Outdoor irrigation is prohibited unless total water use is reduced by 50 % from the same billing period from the previous calendar year (prior to declaration of the most recent water shortage emergency).
Any leak that are not repaired within 24 hours after discovery.
Automated commercial car washes without a water recycling system.

Street cleaning or dust control with potable water.
Filling or to top off any swimming pools, outdoor spas, wading pools, and ornamental water features.
Use of water from a fire hydrant except for fighting fires and human consumption.
Watering any residential lawn, or any commercial or industrial area lawn maintained for aesthetic purposes, at any time of the day or night during the period of March 1, through September 30, when a Stage 3 is in progress.
Planting any new landscaping, except for designated drought resistant landscaping approved by the District.
Operating a hotel, motel or other commercial lodging establishment without offering patrons the option to forego the daily laundering of towels, sheets and linens.
Use of water for any outdoor washing purpose including commercial car washing, window washing, and paint preparation.
Washing of cars, boats, trailers, or other vehicles.

Stage 4 – Critical Water Shortage Emergency Mandatory Rationing (> 50% reduction)

f. From and after the date that the Board of Directors, by resolution, determines that Stage 4, Critical Water Shortage Emergency actions are to be implemented, the following additional uses are declared to be non-essential:

Agricultural irrigation.
Outdoor irrigation.
Any leaks that are not repaired immediately.
Bulk water sales.

g. The percentages stipulated in Stage 2 and Stage 3 may be increased by the General Manager for any class of customer if the General Manager determines that such increase is necessary to protect the public health, safety and welfare or to spread equitably among the water users of the District the burdens imposed by the drought and the shortage in the District's water supply.

Section 8. Variances

Applications for a variance from the provisions of Section 7 of this Ordinance may be made to the General Manager. The General Manager may grant a variance to permit a use of water otherwise prohibited by Section 7 if the General Manager determines that the variance is reasonably necessary to protect the public health and safety and/or economic viability of commercial operation. Any decision of the General Manager under this section may be appealed to the Board of Directors.

Section 9. Suspension of New Connections to the District's Water System

a. From the date the Board of Directors, by resolution, determines that Stage 2 (Moderate Mandatory) or Stage 3, (Severe Mandatory) Stage 4, (Rationing), actions are to be implemented, until, the Board of Directors by resolution declares that the water shortage has ended, which period is hereinafter referred to as the suspension period, the General Manager may prohibit new or enlarged connections to the District's water system except the following:

- (1) connection pursuant to the terms of connection agreements which prior to the date Stage 2, or Stage 3 are implemented, had been executed or had been authorized by the Board of Directors to be executed;
- (2) connections of fire hydrants;
- (3) connections of property previously supplied with water from a well which runs dry.
- (4) connection of property for which the Applicant agrees to defer landscape installation until after the suspension period.
- (5) Recycled Water connections.

b. During the suspension period applications for water service will be processed only if the Applicant acknowledges in writing that such processing shall be at the risk and expense of the Applicant and that if the application is approved in accordance with the District's regulations, such approval shall confer no right upon the Applicant or anyone else until the suspension period has expired, and that the Applicant releases the District from all claims of damage arising out of or in any manner connected with the suspension of connections.

c. Upon the expiration of the suspension period, the District will make connections to its water system in accordance with its regulations and the terms of connection agreements for all said applications approved during the suspension period. The water supply then available to the District will be apportioned equitably among all the customers then being served by the District without discrimination against services approved during the suspension period.

d. Nothing herein shall prohibit or restrict any modification, relocation or replacement of a connection to the District's system if the General Manager determines that the demand upon the District's water supply will not be increased thereby.

Section 10. Limits on Individual Consumption.

Manager may limit the amount of water delivered to customers, whenever the Manager determines the water available to the McKinleyville Community Services District is insufficient to meet the demands of customers of the District and that all water available to said District should be used solely for human consumption, sanitation and fire protection, he may order limits be imposed on individual consumption as determined and specified by resolution of the Board of Directors including penalties in addition to those specified in Section 11 of this Ordinance.

a. While this Ordinance is in effect, no additional water use by a customer, shall be permitted unless the Manager determines that the health, safety, or welfare of the public might be endangered.

Section 11. Fines and Penalties.

Except as otherwise provided herein, violations of any provision of this Ordinance shall be punished as follows:

- a. An administrative fine of up to \$500.00 may be levied for each violation of a provision of this ordinance in accordance with Water Code Section 71590.
- b. Each violation of this ordinance may be prosecuted as a misdemeanor punishable by imprisonment in the county jail for not more than thirty (30) days or by a fine not exceeding \$600, or both as provided in Water Code Section 71644. The manager shall forthwith direct and cause disconnection of the water service of any person or customer cited for a misdemeanor under this section. Such service shall be restored only upon payment of any turn-on charge fixed by the Board of Directors.
- c. Each day any violation of this Ordinance is committed or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder.

Section 12. Enforcement.

The Manager and all employees of the McKinleyville Community Services District have the duty and are authorized to enforce the provisions of this Ordinance and shall have all the powers and authority contained in California Penal Code Section 836.5, including the power to issue written notice of violation.

Section 13. Signs on Land Supplied from Private Wells or Recycled Water.

The owner or occupant of any land within the MCSD water service area that is supplied with water from a private well or with recycled water shall post and maintain in a conspicuous place thereon a sign furnished by the District at cost giving public notice of such supply.

APPENDIX F

Notices for Public Hearing and Agency Notifications

PHYSICAL ADDRESS:

1656 SUTTER ROAD
McKINLEYVILLE, CA 95519

MAILING ADDRESS:

P.O. BOX 2037
McKINLEYVILLE, CA 95519



MAIN OFFICE:

PHONE: (707) 839-3251
FAX: (707) 839-8456

PARKS & RECREATION OFFICE:

PHONE: (707) 839-9003
FAX: (707) 839-5964

DATE March 29, 2016

TO: Paul Helliker, Humboldt Bay Municipal Water District
Robert Wall, Interim Humboldt County Planning and Building Director
Karen Diemer, City of Arcata Manager
Brian Gerving, City of Eureka
Vicky Hutton and John Berchtold, City of Blue Lake
Rebecca Crow and Rick Hanger, Fieldbrook-Glendale CSD
Chris Drop, Manila CSD

McKinleyville Community Services District

Notice of Public Hearing

The McKinleyville Community Services District (MCSD) will hold a public hearing on June 1, 2016 at 7:00PM at Azalea Hall, 1620 Pickett Road, McKinleyville CA. The purpose of the hearing is to invite and accept public input on the draft 2015 Urban Water Management Plan. The draft UWMP Plan will be available for public review at the District Office at 1656 Sutter Road, McKinleyville or available on-line at www.mckinleyvillecsd.com. Please direct comments or questions to Gregory Orsini, General Manager, 1656 Sutter Road, McKinleyville, CA 95519. (707) 839-3251/fax (707) 839-8456.

If you have any questions, please feel free to call me at (707) 839-3251

Sincerely,

Jason Patton
McKinleyville CSD

DATE March 7, 2016

TO: Paul Helliker, Humboldt Bay Municipal Water District
Kevin R. Hamblin, Humboldt County Planning and Building Director
Karen Diemer, City of Arcata Manager
McKinleyville Community Services District

Re: Notice Regarding Review of the McKinleyville Community Services District Urban Water Management Plan

California Water Code (CWC) 10621(b) requires an urban water supplier preparing an Urban Water Management Plan (UWMP) to notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. CWC further requires each urban water supplier to coordinate the preparation of its UWMP with other appropriate area agencies including other water suppliers that share the same water sources, water management agencies, and other relevant public agencies.

This letter is the MCSD notice to your agency that the MCSD is in the process of reviewing and updating its UWMP. As with the 2010 UWMP, the McKinleyville Community Services District is reviewing and updating its 2015 UWMP in collaboration with Humboldt Bay Municipal Water District, the City of Arcata, the City of Eureka, and the Humboldt Community Services District. If your agency would like to provide input or be involved in the review process you are encouraged to contact myself or any of the above named agencies to coordinate your participation.

If you have any questions please feel free to call me at (707) 839-3251

Sincerely,

Jason Patton
McKinleyville CSD

**NOTICE OF PUBLIC
HEARING REGARDING
THE 2015 URBAN
WATER MANAGEMENT
PLAN**

McKinleyville, CA – The McKinleyville Community Services District (MCSD) will hold a public hearing on July 6, 2016 at 7:00PM at Azalea Hall, 1620 Pickett Road, McKinleyville CA. The purpose of the hearing is to invite and accept public input on the draft 2015 Urban Water Management Plan (UWMP). The draft UWMP Plan is available for public review at the District Office at 1656 Sutter Road, McKinleyville or available on-line at www.mckinleyvillecsd.com. Please direct comments or questions to Gregory Orsini, General Manager, 1656 Sutter Road, McKinleyville, CA 95519. (707) 839-3251/fax (707) 839-8456.

6/22, 6/29, 7/6

NOTICE OF PUBLIC

PHYSICAL ADDRESS:

1656 SUTTER ROAD
McKINLEYVILLE, CA 95519

MAILING ADDRESS:

P.O. BOX 2037
McKINLEYVILLE, CA 95519



MAIN OFFICE:

PHONE: (707) 839-3251
FAX: (707) 839-8456

PARKS & RECREATION OFFICE:

PHONE: (707) 839-9003
FAX: (707) 839-5964

DATE January 25, 2016

TO: Paul Helliker, Humboldt Bay Municipal Water District
Robert Wall, Humboldt County Planning and Building Director

Re: Notice Regarding Review of the McKinleyville Community Services District Urban Water Management Plan

California Water Code (CWC) 10621(b) requires an urban water supplier preparing an Urban Water Management Plan (UWMP) to notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. CWC further requires each urban water supplier to coordinate the preparation of its UWMP with other appropriate area agencies including other water suppliers that share the same water sources, water management agencies, and other relevant public agencies.

This letter is the MCSD notice to your agency that the MCSD is in the process of reviewing and updating its UWMP. As with the 2010 UWMP, the McKinleyville Community Services District is reviewing and updating its 2015 UWMP in collaboration with Humboldt Bay Municipal Water District, the City of Arcata, the City of Eureka, and the Humboldt Community Services District. If your agency would like to provide input or be involved in the review process you are encouraged to contact myself or any of the above named agencies to coordinate your participation.

If you have any questions please feel free to call me at (707) 839-3251

Sincerely,

Jason Patton
McKinleyville Community Services District

APPENDIX G

2015 MCSD Consumer Confidence Report

McKinleyville Community Services District (MCSD)

2015 Consumer Confidence Report

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

Last year, as in years past, your tap water met all United State Environmental Protection Agency (USEPA) and State drinking water health standards. MCSD vigilantly safeguards its water infrastructure and once again, we are proud to report that our system did not violate a maximum contaminant level or any other water quality standard in 2015.

Introduction and Background

For a number of years, California State Law has required that water systems prepare an *Annual Water Quality Report* for its customers providing information regarding the quality of water delivered to them. The 1996 amendments to the federal Safe Drinking Water Act introduced new reporting requirements - namely preparation of a *Consumer Confidence Report* - with essentially the same purpose as that of the California *Water Quality Report*. Since 1999, California water systems must comply with federal reporting requirements. This report represents the McKinleyville Community Service District's 2015 Consumer Confidence Report. It is a snapshot of the quality of the water we provided last year. Included are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions about this report or the quality of your drinking water, please call Greg Orsini, General Manager at 839-3251. You may also attend one of the regularly scheduled meetings of our Board of Directors, which are held the first Wednesday of each month at 7:00 p.m. at Azalea Hall (1620 Pickett Road).

Water Source

Drinking water delivered by the McKinleyville Community Services District (MCSD) is supplied by the Humboldt Bay Municipal Water District (HBMWD). HBMWD water is drawn from wells located in the bed of the Mad River northeast of Arcata along Highway 299. These wells, called Ranney Wells, extract water from the sands and gravel of the riverbed at depths of 60 to 90 feet, thereby providing a natural filtration process. In low rainfall periods, this naturally filtered water is then disinfected via chlorination and delivered, without further treatment, to the HBMWD's wholesale municipal and retail customers in the Humboldt Bay area. The District's source water has been classified by the State Water Resources Control Board (SWRCB) as groundwater. The classification is important with respect to the regulations that a water system must follow to ensure water quality.

In the late 1990s heavy winter rainfalls and high river levels were accompanied by increased turbidity (cloudiness) in the District's water. While turbidity itself is not a health concern, there is concern that it may interfere with the disinfection process. In 1997, DHS mandated that the District take steps to control the turbidity in its drinking water. Together with its wholesale customers, the new Turbidity Reduction Facility (TRF) was constructed and became operational in late 2002. For the first time in many years the District met the State's secondary maximum contaminant level standard for turbidity of less than 5 NTU (the unit which turbidity is measured). The TRF operates only during winter months.

General Water Quality

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking WATER hotline (1-800-426-4791) or visiting the USEPA website (<http://water.epa.gov/drink/index.cfm>).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and can pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Radioactive contaminants that can be naturally-occurring or be the result of oil and gas production and mining activities.
- Organic chemical contaminants including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, agriculture application, and septic systems.

Some people may be more vulnerable to contaminants in drinking water than the general population.

Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, persons with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA and the Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (1-800-426-4791) or visiting their website (<http://water.epa.gov/drink/standards/hascience.cfm>).

HBMWD consistently and frequently monitors for the presence of giardia and cryptosporidium in its drinking water. Since the mid-1990s, when the EPA approved the testing technique for these contaminants, HBMWD has never had a confirmed detection of either contaminant.

Water Quality Testing Results

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency and the State Water Resources Control Board (State Board) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. HBMWD treats its water and performs annual monitoring and testing, in accordance with the USEPA and the State Board regulations and requirements, to ensure its water is safe to drink. In addition, MCSD performs separate monitoring and testing, in accordance with the USEPA and the State Board regulations and requirements, to ensure that the water quality remains high within the MCSD storage and distribution systems. Additional monitoring performed by MCSD includes laboratory analysis for coliform bacteria, disinfection byproducts and lead/copper. Test results for disinfection byproducts and lead/copper are included in the MCSD test results table. The MCSD testing for coliform produced zero results. Test results for disinfection byproducts have been below the Maximum Contaminant Level (MCL).

In 2015, HBMWD conducted approximately 470 water quality tests for over 50 contaminants. MCSD also performed approximately 226 water quality tests during 2015. The results from both the HBMWD's and the MCSD's 2015 monitoring and testing programs indicate that our water quality is very high, as has consistently been the case in past years.

The tables enclosed in the newsletter list all the drinking water contaminants that were monitored during 2015. Additionally, the State requires that both Districts monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Therefore, results from prior years are included if such a contaminant was detected. There are very few entries in the tables because very few contaminants were actually detected in prior years. It is once again important to note that the presence of these contaminants does not necessarily indicate that the water poses a health risk.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. MCSD is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at (<http://www.epa.gov/safewater/lead>).

During 2014, the District was also required to test for unregulated contaminants as part of the Unregulated Contaminant Monitoring Rule (UCMR) 3. This testing and results are described on the next page. It is important to note that the presence of contaminants does not necessarily indicate that the water poses a health risk.

Definitions of Terms Used in This Report:

You will find many terms and abbreviations in the table below. To help you understand these terms, the following definitions are provided:

- **Public Health Goal (PHG):** The level of a contaminant in drinking water, below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.
- **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.
- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs cover the aesthetic quality of the water such as odor, taste and appearance.
- **Primary Drinking Water Standard (PDWS):** MCLs for contaminants that affect health along with monitoring, reporting requirements and water treatment requirements.
- **Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **Regulatory Action Level (RAL):** The concentration of a contaminant which, when exceeded, triggers treatment or other requirements that a water system must follow.
- **Treatment Technique (TT):** A Required process intended to reduce the level of a contaminant in drinking water.
- **Variances and Exemptions:** State Board permission to exceed an MCL or not comply with a treatment technique under certain conditions.
- **n/a:** not applicable
- **ND:** not detectable at testing limit
- **ppb:** parts per billion or micrograms per liter (**µg/L**)
- **ppm:** parts per million or milligrams per liter (**mg/L**)
- **pCi/l:** picocuries per liter (**a measure of radiation**)
- **mgCaCO₃/L:** milligrams of calcium carbonate per liter (**a measure of hardness**)
- **microseimens/ cm :** a measure of specific conductance (**µS/cm**)
- **NTU:** Nephelometric Turbidity Units
- **Detection Limit for Purposes of Reporting (DLR):** The DLR is a parameter that is set by state regulation for each reportable contaminant. The presence of these contaminants in the drinking water at its DLR does not necessarily indicate that the water poses a health risk and can be below its MCL.

- **Minimum Reporting Level (MRL):** The MRL is defined by the USGS National Water Quality Laboratory as the smallest measured concentration of a substance that can be reliably measured by using a given analytical method.

McKinleyville Community Services District
2015 Consumer Confidence Report

Humboldt Bay Municipal Water District Testing: RAW SOURCE WATER

TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA							
Microbiological Contaminants (complete if bacteria detected)	Highest No. of Detections	No. of months in violation	MCL	MCL G	Typical Source of Bacteria		
Total Coliform Bacteria	(In a mo.) 1	0	More than 1 sample in a month with a positive detection	0	Naturally present in the environment		
Fecal Coliform or <i>E. coli</i>	(In the year) 0	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or <i>E. coli</i>	0	Human and animal fecal waste		
TABLE 2 – SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER							
Lead and Copper (complete if lead or copper detected in the last sample set)	Sample Date	No. of samples collected	90 th percentile level detected	No. sites exceeding AL	AL	PHG	Typical Source of Contaminant
Lead (µg/L)	2014	5	2.0	0	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers, erosion of natural deposits
Copper (mg/L)	2014	5	0.925	0	1.3	0.3	Internal corrosion of household plumbing; erosion of natural deposits; leaching from wood preservatives

TABLE 3 – SAMPLING RESULTS FOR SODIUM AND HARDNESS						
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (mg/L)	2007	3.6		none	none	Salt present in the water and is generally naturally occurring
Hardness (mg/L as CaCO3)	2007	68		none	none	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

**Any violation of an MCL or AL is asterisked. Additional information regarding the violation is provided later in this report.*

TABLE 4 – DETECTION OF CONTAMINANTS WITH A <u>PRIMARY</u> DRINKING WATER STANDARD						
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
TTHMs (µg/L) – (Total Trihalomethanes)	2015	Average = 8.0		80	n/a	By-product of drinking water chlorination
HAA5 (µg/L) (Haloacetic Acids)	2015	Average = 5.2		60	n/a	By-product of drinking water chlorination
Chlorine (mg/L)	2015	Average = 0.67		4	4	Drinking water disinfectant added for treatment.
Aluminum (mg/L)	2015	0.011		1	0.6	Discharges from industrial manufacturers, erosion of natural deposits
TABLE 5 – DETECTION OF CONTAMINANTS WITH A <u>SECONDARY</u> DRINKING WATER STANDARD						
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	<i>Typical Source of Contaminant</i>
Chloride (mg/L)	2007	Average = 2.8		500	n/a	Runoff/leaching from natural deposits, or seawater influence
Sulfate (mg/L)	2007	Average = 9.5		500	n/a	Runoff/leaching from natural deposits; industrial wastes
Specific Conductance (µS/cm)	2015	Average = 160		1,600	n/a	Substances that form ions when in water
Total Dissolved Solids (mg/L)	2007	Average = 93		1,000	n/a	Runoff/leaching from natural deposits
Turbidity (NTU)	2015	Average = 0.07	0.02 – 0.61	5	n/a	Turbidity has no health effects. However, high levels of turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

Unregulated Contaminant Monitoring Rule (UCMR)3 – 2013 Testing Results

As part of the federal drinking water program, USEPA issues a list of currently unregulated contaminants to be tested by Public Water Systems throughout the nation. This process occurs every five years pursuant the Unregulated Contaminant Monitoring Rule (UCMR). The purpose of the UCMR program is to determine the prevalence of unregulated contaminants in drinking water. Results of this testing help USEPA determine whether or not to regulate new contaminants for protection of public health.

There have been three cycles of monitoring: UCMR 1 (2001-2003), UCMR 2 (2008-2010), and UCMR 3 (2013-2015). The District participated in UCMR1 and UCMR2 in which 37 constituents were tested; all results were non-detect. The District also participated in the UCMR 3 testing in 2013. The District tested 28 constituents on USEPA’s List 1 (Assessment Monitoring) and List 2 (Screening Survey). Of the 28 constituents tested, 24 were non-detect and four had results. The table below shows the four constituents with results above their minimum reporting levels (MRL). Although unregulated by USEPA, two of the four have MCLs established or proposed by SWRCB. Information on the likely source and potential health effects are also included.

TABLE 6 – DETECTION OF UNREGULATED CONTAMINANTS

Chemical or Constituent (and reporting units)	Sample Date	Range of Detections	Notification Level	MCL	PHG	Health Effects Language
Chromium 6+ (µg/L)	2013	0.18 - 0.23	n/a	10 ¹	0.02	Naturally occurring from geological formations, also from manufacturing of textile dyes, wood preservation, leather tanning, and anti-corrosion coatings.
Chromium, Total (µg/L)	2013	0.20 – 0.39	n/a	50	n/a	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits. Some people who use water containing chromium in excess of the MCL over many years may experience allergic dermatitis.
Strontium, Total (µg/L)	2013	240 – 310	n/a	n/a	n/a	Strontium is a silvery metal that rapidly turns yellowish in air. Strontium is found naturally as a non-radioactive element. Strontium has 16 known isotopes. Naturally occurring strontium is found as four stable isotopes Sr-84, -86, -87, and -88. Twelve other isotopes are radioactive.
Vanadium, Total (µg/L)	2013	0.38 – 0.65	50	n/a	n/a	Naturally-occurring; the primary possible contaminating activity is steel manufacturing and in association with hazardous waste sites. The babies of some pregnant women who drink water containing vanadium in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.

¹The MCL for Chromium 6+ became effective on July 1, 2014.

McKinleyville Community Services District Testing: DISTRIBUTION SYSTEM

Contaminant and units	Level Detected	MCL	PHG (or MCLG)	Likely Source and Potential Effects (if above MCL)
Microbiological Contaminants -- 212 Samples				
Total Coliform Bacteria	Zero positive	More than one positive sample monthly	Zero positives	Naturally present in the environment
Fecal Coliform And E. coli. Bacteria	Zero positive	A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform positive	Zero positive	Fecal coliform and E. coli. are bacteria whose presents indicates that water may be contaminated with human waste or animal fecal waste
Disinfection Byproducts and Disinfectant Residuals				
TTHMs – Total (µg/L) Trihalomethanes	Average= 13.4	80 µg/L	n/a	By-product of drinking water chlorination
HAA5 (µg/L) Halo acetic Acids	Average= 6.5	60 µg/L	n/a	By-product of drinking water chlorination
Chlorine (mg/L)	Average= 0.51	4 mg/L	4	Drinking water disinfection
Lead and Copper				
Copper (mg/L)*	Thirty sites tested none above the AL 90 th percentile= 1.21	AL = 1.3 mg/L	0.3 mg/l	Internal corrosion of household plumbing; erosion of natural deposit
Lead (µg/L)*	Thirty sites tested none above the AL 90 th percentile= 2.63	AL = 15 µg/L	0.2 µg/L	Internal corrosion of household plumbing systems; discharges from industrial manufactures, erosion of natural deposits

*Samples taken in 2013

Additional Water Characteristics
Sodium and Hardness

Although sodium and hardness do not have MCLs, they are of interest to many consumers who are concerned about sodium intake. **Hardness** is the sum of polyvalent cations present in water, generally magnesium and calcium. The cations are, usually naturally occurring. **Sodium** refers to salt present in water and is generally naturally occurring.

Sodium (ppm) *	Average = 3.6	Samples Taken in 2007
Hardness * (mgCaCO ₃ /L)	Range = 57 – 80 Average = 67	Samples Taken in 2005

Unregulated Contaminant Monitoring Rule (UCMR) 3 – 2014 Testing Results

As part of the federal drinking water program, USEPA issues a list of currently unregulated contaminants to be tested by Public Water Systems throughout the nation. This process occurs every five years pursuant the Unregulated Contaminanat Monitoring Rule (UCMR). The purpose of the UCMR program is to determine the prevelence of unregualted contaminants in drinking water. Results of this testing help USEPA determine whether or not to regulate new contaminants for protection of public health.

The District participated in the current UCMR 3 testing in 2014. The District tested 28 constituents on USEPA’s List 1 (Assessment Monitoring). Of the 28 constituents tested, 24 were non-detected and four had results. The table below shows the four constituents with results above their minimum reporting levels (MRL). Although unregulated by USEPA, two of the four have MCL’s established or proposed by CDPH. Information on the likely source and potential health effects is also included.

McKinleyville Community Services District Testing: UCMR 3

Contaminant and Units	Level Detected	Levels & Goals (see last page for definitions)			Likely Source and Potential Effects (if above MCL)
		MRL	MCL	PHG	
Unregulated Contaminant Monitoring Rule 3 – Detected Chemicals					
Chromium 6 +	Range = 0.34 – 0.45 µg/L	0.03 µg/L	10 µg/L	0.02 µg/L	Naturally occurring from geological formations, also from manufacturing of textile dyes, wood preservation, leather tanning, and anti-corrosion coatings.
Chromium, Total	Range = 0.25 – 0.34 µg/L	0.20 µg/L	50 µg/L	n/a	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits. Some people who use water containing chromium in excess of the MCL over many years may experience allergic dermatitis.
Strontium, Total	Range = 347 – 348 µg/L	3.00 µg/L	n/a	n/a	Strontium is a silvery metal that rapidly turns yellowish in air. Strontium is found naturally as a non-radioactive element. Strontium has 16 known isotopes. Naturally occurring strontium is found as four stable isotopes Sr-84, -86, -87, and -88. Twelve other isotopes are radioactive.
Vandium, Total	Range = 0.68 – 0.70 µg/L	0.20 µg/L	n/a	n/a	Naturally-occurring; the primary possible contaminating activity is steel manufacturing and in association with hazardous waste sites. The babies of some pregnant women who drink water containing vanadium in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.

Note: Vanadium has Notification level of 50 µg/L

APPENDIX H

MCSD Resolution Adopting 2015 UWMP

RESOLUTION 2016 - 11

A RESOLUTION OF THE MCKINLEYVILLE COMMUNITY SERVICES DISTRICT BOARD OF DIRECTORS ADOPTING THE DISTRICT'S 2015 URBAN WATER MANAGEMENT PLAN

WHEREAS, the Urban Water Management Planning Act of 1983, as amended (California Water Code Division 6, Part 2.6) requires the preparation and submission to the California Department of Water Resources of an Urban Water Management Plan by all water suppliers that qualify as urban water suppliers as defined by the act; and

WHEREAS, the McKinleyville Community Services District qualifies as an urban water supplier as defined by the Urban Water Management Planning Act; and

WHEREAS, the Urban Water Management Planning Act as amended requires urban water suppliers to address components of the Water Conservation Bill of 2009 (SBX7-7), which sets an overall goal of reducing the state's per capita urban water use by 20% by December 31, 2020; and

WHEREAS, the Urban Water Management Planning Act requires the submission of Urban Water Management Plans in years ending in 5 and 0; and

WHEREAS, the McKinleyville Community Services District last prepared and submitted an Urban Water Management Plan in 2011; and

WHEREAS, the 2015 Urban Water Management Plan must be adopted by July 1, 2016, with a DWR approved 16 day grace period, after public review and hearing, and filed with the Department of Water Resources within thirty days of adoption; and

WHEREAS, the McKinleyville Community Services District has therefore prepared and made available for public review a draft of the Urban Water Management Plan, and a properly noticed public meeting regarding the Plan was held by the Board of Directors on July 6, 2016.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the McKinleyville Community Services District does hereby adopt the 2015 Urban Water Management Plan and authorizes its submission to the California Department of Water Resources.

ADOPTED, SIGNED AND APPROVED at a duly called meeting of the Board of Directors of the McKinleyville Community Services District on July 6, 2016 by the following polled vote:


AYES: Corbett, Couch, Mayo and Wheeler

NOES: none

ABSENT: none

ABSTAIN: none

Attest:


David A. Baldosser, Board Secretary


George Wheeler, Board President

RESOLUTION 2015-09

**A RESOLUTION OF THE MCKINLEYVILLE COMMUNITY SERVICES DISTRICT
(MCSD) BOARD OF DIRECTORS APPROVING AMENDMENTS TO ORDINANCE
NO. 10**

WHEREAS, On January 17, 2014, the Governor issued a proclamation of a state of emergency under the California Emergency Services Act based on drought conditions; and

WHEREAS, On April 25, 2014, the Governor issued a proclamation of a continued state of emergency under the California Emergency Services Act based on continued drought conditions; and

WHEREAS, The drought conditions that formed the basis of the Governor's emergency proclamations continue to exist; and

WHEREAS, The present year is critically dry and has been immediately preceded by two or more consecutive below normal, dry, or critically dry years; and

WHEREAS, The drought conditions will likely continue for the foreseeable future and additional action by both the State Water Resources Control Board and local water suppliers will likely be necessary to further promote conservation; and

NOW, THEREFORE, BE IT RESOLVED that the McKinleyville Community Services District

1. MCSD Ordinance No. 10 is hereby amended and is attached to this Resolution as Exhibit "A"; and
2. Staff is directed to implement and enforce Ordinance No. 10, as amended by this Resolution, immediately upon adoption.

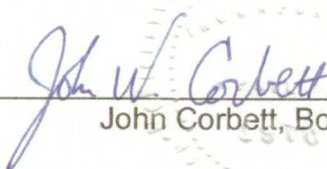
ADOPTED, SIGNED AND APPROVED at a duly called meeting of the Board of Directors of the McKinleyville Community Services District on April 1, 2015 by the following polled vote:

AYES: Couch, Mayo, Wheeler and Corbett

NOES: None

ABSENT: Edwards

ABSTAIN: None



John Corbett, Board President

Attest:



Becky Schuette, Board Secretary

ORDINANCE NO. 10

AN ORDINANCE ESTABLISHING RULES AND REGULATIONS FOR RATIONING WATER DURING A WATER SHORTAGE EMERGENCY AND ESTABLISHING PENALTIES FOR VIOLATIONS THEREOF

WHEREAS, Article X, Section 2 of the California Constitution declares that waters of the State are to be put to beneficial use, that waste, unreasonable use, or unreasonable method of use of water be prevented, and that water be conserved for the public welfare; and

WHEREAS, conservation of current water supplies and minimization of the effects of water supply shortages that are the result of drought are essential to the public health, safety and welfare; and

WHEREAS, regulation of the day or time of certain water use, manner of certain water use, design of rates, method of application of water for certain uses, installation and use of water-saving devices, provide an effective and immediately available means of conserving water; and

WHEREAS, California Government Code section 61100, subdivision (a) incorporates Water Code sections 71000 et seq., including section 71640, into the Community Service District Law; and

WHEREAS, California Water Code section 71610.5 authorizes the District to undertake a water conservation program to reduce water use and may require, as a condition of new service, that reasonable water-saving devices and water reclamation devices be installed to reduce water use; and

WHEREAS, pursuant to Water Code section 71640, municipal water districts may restrict the use of district water during a drought emergency or other water shortage condition and may prohibit the wastage of district water or the nonessential use of district water during such periods for any purpose other than household uses or other restricted uses as the District determines to be necessary; and

WHEREAS, pursuant to Water Code section 71641 and Government Code section 6061, the District must publish in a newspaper of general circulation any ordinance setting forth the restrictions, prohibitions, and exclusions determined to be necessary under Water Code section 71640 within 10 days after its adoption, even though the ordinance is effective upon adoption; and

WHEREAS, Water Code section 71644 establishes that, from the publication of an ordinance pursuant to section 71641 until the repeal of the ordinance or end of the emergency, it is a misdemeanor punishable by up to 30 days in county jail and/or a fine of up to \$600 for any person to use or apply water from the District contrary to or in violation of any restriction or prohibition; and

WHEREAS, the adoption and enforcement of a comprehensive water conservation program will allow the District to delay or avoid implementing measures such as water rationing or more restrictive water use regulations pursuant to a declared water shortage emergency as authorized by California Water Code sections 350 et seq.

BE IT ORDAINED BY the Board of Directors of the McKinleyville Community Services District as follows:

Section 1. Declaration of Water Shortage Emergency.

This ordinance is effective immediately upon adoption. The provisions of this chapter shall take effect whenever the District General Manager, upon engineering analysis of District water supplies, information received from the wholesale water provider, Humboldt Bay Municipal Water District (HBMWD), or due to regulatory requirements, notices, or orders, finds and determines that a water shortage emergency exists or is imminent within the MCSD water service area and a declaration of a water shortage is made by a resolution of the MCSD Board of Directors, and they shall remain in effect for the duration of the water shortage set forth in the resolution.

Section 2. Publication.

Within ten (10) days of adoption the District will publish in a newspaper of general circulation this ordinance setting forth the restrictions, prohibitions, and exclusions determined by the District to be necessary.

Section 3. Definitions.

For the purpose of this Ordinance the following terms, phrases, words, and their derivations shall have the meaning given herein. When not inconsistent with the context, words used in the present tense include the future; words in the plural number include the singular number. The word "shall" is always mandatory and not merely directory.

- a. "District" is McKinleyville Community Services District.
- b. "Board of Directors" is the elected Board of Directors of the McKinleyville Community Services District.
- c. "Customer" is any person using water supplied by the McKinleyville Community Services District.
- d. "Manager" is the General Manager of the McKinleyville Community Services District.
- e. "Person" is any person, firm, partnership, association, corporation, company, or organization of any kind.
- f. "Water" is water from the McKinleyville Community Services District.
- g. "Outdoor surface" is any patio, porch, veranda, driveway, or sidewalk.

Section 4. Application.

The provisions of this Ordinance shall apply to all customers using water both in and outside the McKinleyville Community Services District, regardless of whether any customer using water shall have a contract for water service with the McKinleyville Community Services District.

Section 5. Determination of Stage of Action Necessary.

This ordinance establishes regulations to be implemented during times of declared water shortages, or declared water shortage emergencies. It establishes four levels of response actions to be implemented in times of shortage, as set forth in Section 7, below, with increasing restrictions on water use in response to worsening drought conditions or decreasing available supplies. The MCSD Board of Directors, upon recommendation by the Manager, shall determine and declare by resolution the stage of response action necessary. Notice of such determination shall be published in a newspaper of general circulation and shall be effective within five (5) days from the date the declaration is made.

Section 6. Waste of Water Prohibited

No water furnished by the District shall be wasted. Waste of water includes, but is not limited to, the following:

- a. Permitting water to escape (run to waste) down a gutter, ditch, surface drain, or otherwise;
- b. Failure to repair a controllable leak of water; and
- c. Failure to put to reasonable beneficial use any water withdrawn from the District's system.

Section 7. Prohibition of Non-Essential Use of Water

No water furnished by the District shall be used for any purpose declared to be non-essential by this Ordinance for the following stages of action as determined by the Board of Directors after considering specific triggers consistent with the Water Shortage Contingency Plan for the MCSD Service Area.

Stage 1 - Voluntary Conservation (up to 20% reduction). Achieve up to 20% reduction in water usage compared to the corresponding billing period in the previous calendar year (prior to declaration of the most recent water shortage emergency) by encouraging voluntary conservation, enforcement of water wasting regulations and water conservation regulations, requesting customers to make conscious efforts to conserve water, request restaurants to serve water only upon request, encourage private sector to use alternate source and encourage night irrigation. Voluntary actions include:

Water conservation is requested of all customers.
Installation and use of water efficient indoor devices.
Use of hose-end shutoff nozzles on all garden and utility hoses.

Refrain from washing cars, boats, trailers, or other vehicles except by hose with shutoff nozzle and bucket.
Installation of low-flow shower heads, low flush water closets, and faucet aerators.
Promptly repair all leaks in plumbing fixtures, water lines, and sprinkler systems.

Stage 2 - Mandatory Conservation (up to 30% reduction)

d. From and after the date that the Board of Directors, by resolution, determines that Stage 2, Mandatory Conservation actions are to be implemented, in addition to the voluntary action is Stage 1, the following uses are declared to be non-essential:

<u>Outdoor irrigation of ornamental landscapes or turf with potable water is only allowed on Sundays, Tuesdays, Thursdays and Saturdays.</u>
Washing sidewalks, driveways, parking areas, tennis courts, patios or other exterior paved areas except by public agency for the purpose of public safety.
Application of potable water to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures.
Use of potable water in a fountain or other decorative water feature, except where the water is part of a recirculation system.
Watering any portion of a golf course other than the tees and greens except where private well or recycled water supply is used.
Fire hydrant water unless authorized by the District, except by fire protection agencies for fire suppression purposes, or for other authorized uses including storm drain maintenance, and street sweeping purposes. Water/sewer flushing and fire flow testing are authorized only if coordinated and performed at the same time.
The use of a hose that dispenses potable water to wash a motor vehicle or for any other purpose, except where the hose is fitted with a shutoff nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.

Stage 3 – Emergency Water Shortage (up to 50% reduction)

e. From and after the date that the Board of Directors, by resolution, determines that Stage 3, Emergency Water Shortage actions are to be implemented, the following additional uses are declared to be non-essential:

Outdoor irrigation is prohibited unless total water use is reduced by 50 % from the same billing period from the previous calendar year (prior to declaration of the most recent water shortage emergency).
Any leak that are not repaired within 24 hours after discovery.
Automated commercial car washes without a water recycling system.

Street cleaning or dust control with potable water.
Filling or to top off any swimming pools, outdoor spas, wading pools, and ornamental water features.
Use of water from a fire hydrant except for fighting fires and human consumption.
Watering any residential lawn, or any commercial or industrial area lawn maintained for aesthetic purposes, at any time of the day or night during the period of March 1, through September 30, when a Stage 3 is in progress.
Planting any new landscaping, except for designated drought resistant landscaping approved by the District.
Operating a hotel, motel or other commercial lodging establishment without offering patrons the option to forego the daily laundering of towels, sheets and linens.
Use of water for any outdoor washing purpose including commercial car washing, window washing, and paint preparation.
Washing of cars, boats, trailers, or other vehicles.

Stage 4 – Critical Water Shortage Emergency Mandatory Rationing (> 50% reduction)

f. From and after the date that the Board of Directors, by resolution, determines that Stage 4, Critical Water Shortage Emergency actions are to be implemented, the following additional uses are declared to be non-essential:

Agricultural irrigation.
Outdoor irrigation.
Any leaks that are not repaired immediately.
Bulk water sales.

g. The percentages stipulated in Stage 2 and Stage 3 may be increased by the General Manager for any class of customer if the General Manager determines that such increase is necessary to protect the public health, safety and welfare or to spread equitably among the water users of the District the burdens imposed by the drought and the shortage in the District's water supply.

Section 8. Variances

Applications for a variance from the provisions of Section 7 of this Ordinance may be made to the General Manager. The General Manager may grant a variance to permit a use of water otherwise prohibited by Section 7 if the General Manager determines that the variance is reasonably necessary to protect the public health and safety and/or economic viability of commercial operation. Any decision of the General Manager under this section may be appealed to the Board of Directors.

Section 9. Suspension of New Connections to the District's Water System

a. From the date the Board of Directors, by resolution, determines that Stage 2 (Moderate Mandatory) or Stage 3, (Severe Mandatory) Stage 4, (Rationing), actions are to be implemented, until, the Board of Directors by resolution declares that the water shortage has ended, which period is hereinafter referred to as the suspension period, the General Manager may prohibit new or enlarged connections to the District's water system except the following:

(1) connection pursuant to the terms of connection agreements which prior to the date Stage 2, or Stage 3 are implemented, had been executed or had been authorized by the Board of Directors to be executed;

(2) connections of fire hydrants;

(3) connections of property previously supplied with water from a well which runs dry.

(4) connection of property for which the Applicant agrees to defer landscape installation until after the suspension period.

(5) Recycled Water connections.

b. During the suspension period applications for water service will be processed only if the Applicant acknowledges in writing that such processing shall be at the risk and expense of the Applicant and that if the application is approved in accordance with the District's regulations, such approval shall confer no right upon the Applicant or anyone else until the suspension period has expired, and that the Applicant releases the District from all claims of damage arising out of or in any manner connected with the suspension of connections.

c. Upon the expiration of the suspension period, the District will make connections to its water system in accordance with its regulations and the terms of connection agreements for all said applications approved during the suspension period. The water supply then available to the District will be apportioned equitably among all the customers then being served by the District without discrimination against services approved during the suspension period.

d. Nothing herein shall prohibit or restrict any modification, relocation or replacement of a connection to the District's system if the General Manager determines that the demand upon the District's water supply will not be increased thereby.

Section 10. Limits on Individual Consumption.

Manager may limit the amount of water delivered to customers, whenever the Manager determines the water available to the McKinleyville Community Services District is insufficient to meet the demands of customers of the District and that all water available to said District should be used solely for human consumption, sanitation and fire protection, he may order limits be imposed on individual consumption as determined and specified by resolution of the Board of Directors including penalties in addition to those specified in Section 11 of this Ordinance.

a. While this Ordinance is in effect, no additional water use by a customer, shall be permitted unless the Manager determines that the health, safety, or welfare of the public might be endangered.

Section 11. Fines and Penalties.

Except as otherwise provided herein, violations of any provision of this Ordinance shall be punished as follows:

- a. An administrative fine of up to \$500.00 may be levied for each violation of a provision of this ordinance in accordance with Water Code Section 71590.
- b. Each violation of this ordinance may be prosecuted as a misdemeanor punishable by imprisonment in the county jail for not more than thirty (30) days or by a fine not exceeding \$600, or both as provided in Water Code Section 71644. The manager shall forthwith direct and cause disconnection of the water service of any person or customer cited for a misdemeanor under this section. Such service shall be restored only upon payment of any turn-on charge fixed by the Board of Directors.
- c. Each day any violation of this Ordinance is committed or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder.

Section 12. Enforcement.

The Manager and all employees of the McKinleyville Community Services District have the duty and are authorized to enforce the provisions of this Ordinance and shall have all the powers and authority contained in California Penal Code Section 836.5, including the power to issue written notice of violation.

Section 13. Signs on Land Supplied from Private Wells or Recycled Water.

The owner or occupant of any land within the MCSD water service area that is supplied with water from a private well or with recycled water shall post and maintain in a conspicuous place thereon a sign furnished by the District at cost giving public notice of such supply.

**Errata Sheet for Minor Corrections to
Mckinleyville Community Services District 2015 Urban Water Management Plan (UWMP)**

This errata sheet logs minor content errors that were identified after final adoption of the *Mckinleyville Community Services District 2015 UWMP*. DWR has determined that these corrections are minor and do not require the UWMP to be amended.

☒ These data errors have been corrected in the Department of Water Resources (DWR) UWMP database at <http://wuedata.water.ca.gov>.

☒ This errata sheet has been filed with the UWMP in all locations where it is made publicly available, including the California State Library.

Name and agency of the person filing errata sheet:

James Henry Operations Director

Name

Mckinleyville Community Services District

Agency

#	Description of Correction	Location	Rationale	Date Error Corrected
1	SBX 7-7 Tables 4/4A Report corrective usage for 2015 From 456 MG to 435 MG	Appendix B	Improved Accuracy of Reported volume	1/24/17
2	UWMP Table 4-1 Corrected to 435 MG in table And body of UWMP	Appendix A Page 11	Improved accuracy of Reported volume	1/24/17
3	UWMP Table 4-3 Corrected from 450 to 435 MG	Appendix A	Improved accuracy of Reported volume	1/24/17
4	SBX 7-7 Table 5 Gross Water corrected from 456 MG to 435 MG 2015 GPCD corrected 78 to 74	Appendix B	Improved accuracy of Reported volume	1/24/17
5	SBX 6 2015 GPCD 78 to 74	Appendix B	Improved accuracy of Reported volume	1/24/17
6	Table 5-2 2015 GPCD 78 to 74	Appendix A	Improved accuracy of Reported volume	1/24/17
7	SBX 7-7 Table 9	Appendix B	Improved accuracy of Reported volume	1/24/17
8	Table 5 2015 GPCD 78 to 74	Page 19	Improved accuracy of Reported volume	1/24/17
9	UWMP 5.7 2015 actual GPCD 78 to 74	Page 20	Improved accuracy of Reported volume	1/24/17
10	Table 6-8 455 to 435 MG	Appendix A	Improved accuracy of Reported volume	1/24/17