

WATER SERVICES IN EASTERN NEVADA COUNTY

MUNICIPAL SERVICES REVIEW

Final

FEATURING

Truckee Donner PUD

Donner Summit PUD

Prepared for

NEVADA LAFCO
Public Hearing: July 18, 2019

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East County Water Services
Final 2nd Round Municipal Service Review Update

TRUCKEE DONNER PUBLIC UTILITY DISTRICT
DONNER SUMMIT PUBLIC UTILITY DISTRICT

Prepared for:

Nevada LAFCo
950 Maidu Avenue
Suite 270
Nevada City, CA 95959

<https://www.mynevadacounty.com/907/Local-Agency-Formation-Commission-LAFCo>

Prepared by:



Public Hearing: July 18, 2019

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ACRONYMS AND ABBREVIATIONS

ACS	American Community Survey
AF	Acre-Feet
AWMP	Agricultural Water Master Plan
CAFR	Comprehensive Annual Financial Report
CDF	California Department of Forestry
CEQA	California Environmental Quality Act
CIP	Capital Improvement Plan
CKH	Cortese-Knox-Hertzberg Reorganization Act of 2000
DAC	Disadvantaged Community
DUC	Disadvantaged Unincorporated Community
DWR	Department of Water Resources
DSPUD	Donner Summit Public Utility District
EPA	U.S. Environmental Protection Agency
FY	Fiscal Year
FTE	Full-Time Equivalent
GAAP	Generally Accepted Accounting Principles
GASB	Government Accounting Standards Board
GHG G	Greenhouse gas(es)
GIS	Geographic Information System
LAFCO	Local Agency Formation Commission
mgd	Million gallons per day
MHI	Median Household Income
MOU	Memorandum of understanding
MSR	Municipal Services Review
MVGB	Martis Valley Groundwater Basin
NCSD	Northstar Community Services District
O&M	Operation, Maintenance
PUD	Public Utility District
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SCADA	Supervisory Control and Data Acquisition; a software application
SCO	State Controller's Office
SCS	Sustainable Communities Strategy
SFR	Single Family Residence
SOI	Sphere of Influence
SWRCB	State Water Resources Control Board
TDPUD	Truckee Donner Public Utility District
TDLT	Truckee Donner Land Trust
TRPA	Tahoe Regional Planning Agency
UWMP	Urban Water Management Plan

Chapter 1: EXECUTIVE SUMMARY



Data Source: USGS Topographic Map, 1958

This Municipal Service Review (MSR) examines how municipal water services are delivered by two providers: the Truckee Donner Public Utility District (Chapter 3) and the Donner Summit Public Utility District (Chapter 4). The MSR discusses service delivery and efficiency, including an analysis and a written statement of conclusions, known as determinations, for each of the following factors:

- Growth and population projections for the two affected areas;
- Disadvantaged unincorporated communities;
- Present and planned capacity of public facilities;
- Financial ability of each agency to provide services;
- Opportunities for shared facilities;
- Accountability for government service needs; and
- Any other matter related to service delivery as required by Commission Policy.

The specific determinations for each service provider, and the key facts that support each determination are discussed in Chapters 3, and 4. The areas of description and analysis contain the essential operational and management aspects for the two service providers and together constitute a review of each provider’s ability to meet the service demands of the customers

within their respective boundaries. Only municipal water supply, demand, and service provision are considered in this MSR Update. These services are primarily provided to residents and visitors by the two special districts, in cooperation with Nevada County, Placer County, and the Town of Truckee. The two districts operate under “principal acts,” which govern the provision of one or more public services. Boundaries and spheres of influence are determined by the Local Agency Formation Commission (LAFCo) of each agency’s *principal county* (the county having the greater portion of the entire assessed value of all taxable property within the district, pursuant to Section 56066 of the Government Code). Nevada County is considered the principal county for the Truckee Donner Public Utility District, while Placer County is the principal county for the Donner Summit Public Utility District.

1.1 SUMMARY OF DISTRICTS

This MSR considers the provision of water service in eastern Nevada County by two public water service providers: the Truckee Donner Public Utility District (TDPUD) and the Donner Summit Public Utility District (DSPUD). Figure 1-2 presents a map showing the location of each district. TDPUD was last reviewed by Nevada LAFCo in an MSR dated 2005 called the ‘East County Water Service MSR.’ The DSPUD was last reviewed by Nevada LAFCo through an MSR in 2005. Placer LAFCo completed a Municipal Service Review in 2018 which examines all public services provided in eastern Placer County, including DSPUD. The following pages provide a summary profile for the DSPUD and the TDPUD.

Figure 1-1: Downtown Truckee



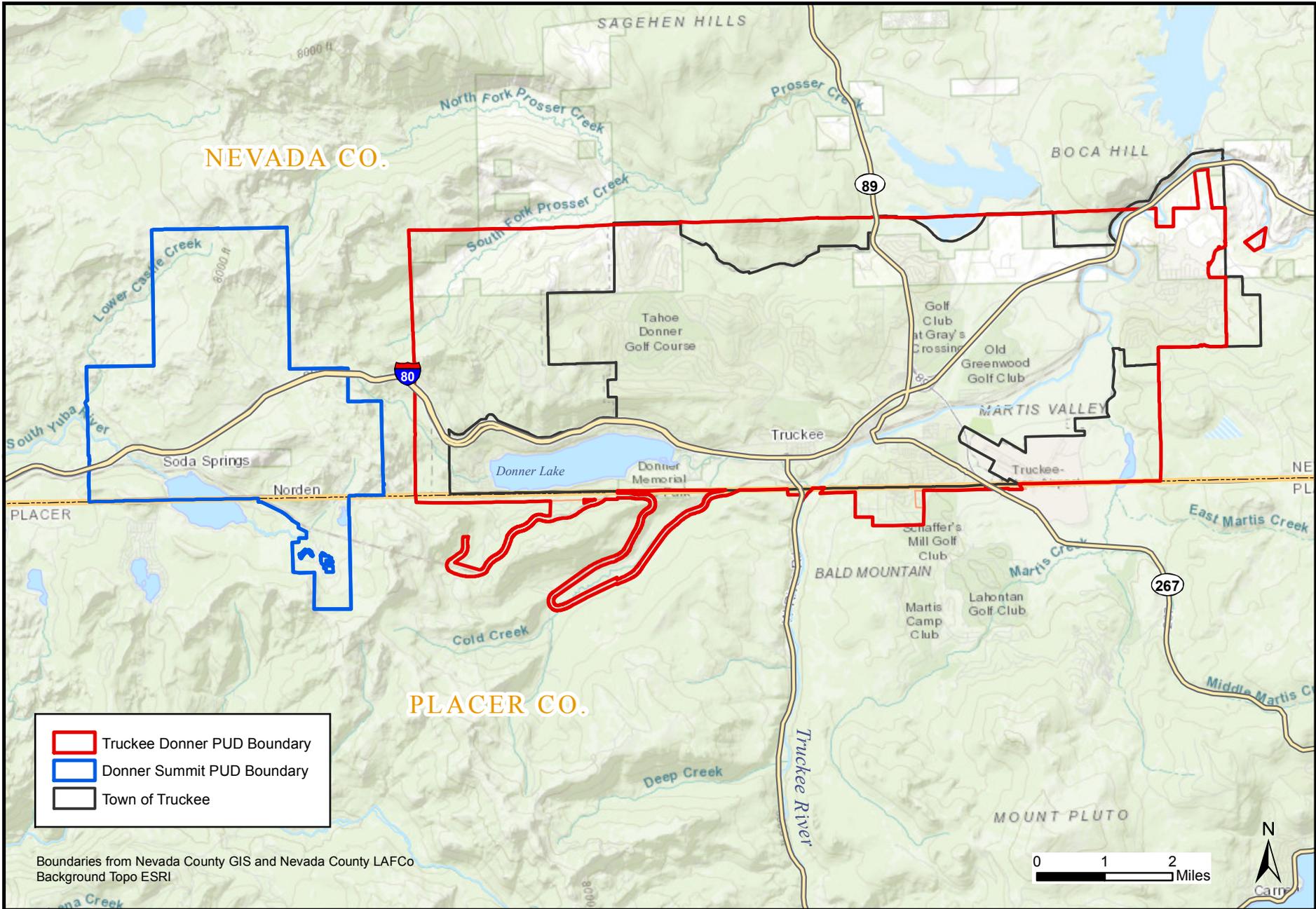


Figure 1 -2

REGIONAL MAP

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Truckee Donner Public Utility District Profile

Type of District: Special District - Public Utility District
Enabling Legislation: CA Public Utilities Code - Section 15501, *et seq.*
Functions/Services: Water (supply & distribution) and electric utility services

Main Office: 11570 Donner Pass Road Truckee, CA 96161
Mailing Address: same as above

Phone No.: 530-587-3896
Fax No.: 530-550-1968
Web Site: <http://www.tdpud.org>
Email: michaelholley@tdpud.org
Additional email contacts: shannakuhlemier@tdpud.org or service@tdpud.org

Governing Body:	<u>Elected Board of Directors</u>	<u>Term Expires</u>
	Joe Aguera	Dec. 2020
	Jeff Bender	Dec. 2020
	Bob Ellis	Dec. 2020
	Tony Laliotis	Dec. 2022
	Christa Finn	Dec. 2022

Meeting Schedule: Board primarily meets twice monthly on the first and third Wednesdays at 6:00 PM.

Meeting Location: 11570 Donner Pass Road, Truckee, CA 96161

Date of Formation: 1927

Principal LAFCo: Nevada LAFCo
Secondary LAFCo: Placer LAFCo

Donner Summit Public Utility District Profile

Type of District: Public Utility District
Principal Act: Public Utility District Act. Public Utilities Code §§ 15501-18055
Functions/Services: Water treatment and distribution, and sewage treatment and collection

Main Office: 53823 Sherritt Lane, Soda Springs, CA 95728
Mailing Address: P.O. Box 610, Soda Springs, CA 95728

Phone No.: (530) 426-3456
Fax No.: (530) 426-3460
Web Site: www.dspud.com

General Manager: Tom Skjelstad **Email:** tskjelstad@dspud.com
Other Contact: Julie Bartolini **Email:** jbartolini@dspud.com

Governing Body: Elected Board of Directors - 4-year terms

<u>Name</u>	<u>Position</u>	<u>Term Ends</u>
Cathy Preis	President	12/31/2020
Sara Schrichte	Vice President	12/31/2020
Robert Sherwood	Secretary	12/31/2020
Alex Medveczky	Director	12/31/2022
Phil Gamick	Director	12/31/2022

Meeting Schedule: Third Tuesday of each month at 6:00 PM.

Meeting Location: District Office, 53823 Sherritt Lane, Soda Springs, CA 95728

Date of Formation: 1950

Principal County: Placer County, since 2008
Other: Multi-county district serving Nevada County and Placer County

	TDPUD	DSPUD
Population ¹	18,391	93
Principal County	Nevada	Placer
Size (in square miles)	46.5	13
Services	Water treatment and distribution; electrical services	Collection, treatment, and disposal of sewage; and water treatment and distribution
Number of water connections	13,000	331
Gross Revenue	12,571,848 (FY2017)	\$2,452,052 (FY2015)
Monthly rate for a SFR - Water	The average monthly bill for a single-family home in TDPUD's Zone 4 would be approximately \$79.05. See tables 4-33 and 4-34 for details.	The average monthly base rate for a single-family home served by DSPUD would be approximately \$56 per month. Usage fees and late fees may also apply. See Table 5-10 for details.
¹ Population does not include visitor population in 2018 ² Single Family Residence		

1.2 SUMMARY OF FACTORS

Chapters 4 and 5 provide more detailed information on issues and challenges faced by the two Districts. For purposes of this Executive Summary, the key water information regarding the Districts are encapsulated below.

Growth and Population Projections

The two districts are located in areas substantially affected by seasonal variations, distinct user groups, and an abundance of second homes. Seasonal variations in demand for municipal water services fluctuate due to increases in the visitor population which are attracted to the popular skiing and winter recreation, as well as summer recreation opportunities. In addition, the economic downturn of 2008-2010 slowed anticipated growth for major population centers such as the Town of Truckee and Northstar-at-Tahoe; and in both cases recent growth has not occurred on pace with expectations.

The DSPUD anticipates a very low population growth rate as described in Chapter 5's Table 5-3: Projected Population Growth in DSPUD Boundaries. TDPUD's anticipated future rate of population growth is closely tied to that of the Town of Truckee. To model future population growth in the Truckee area, this MSR develops a slow growth scenario based on past trends and

a fast growth scenario based on the Town General Plan as described in Chapter 4 and shown in Table 4-7: Projected Population Growth. The slow growth scenario anticipates an approximately 0.56 percent growth rate in TDPUD’s service area population. The two Districts indicate they have adequate capacity to meet service needs to the 2040 planning horizon of this MSR. However, variabilities in seasonal visitors, second homes, and upward growth trends may require additional facilities and infrastructure to support added demand.

Disadvantaged Unincorporated Communities

Senate Bill (SB) 244, which became effective in January 2012, requires LAFCo to consider the presence of any Disadvantaged Unincorporated Communities (DUCs) when preparing an MSR that addresses agencies that provide water, wastewater, or structural fire protection services. A DUC is a geographic area characterized as having a median household income of 80 percent or less of the statewide median household income (\$67,739 in 2016). Nevada LAFCo has adopted specific policies regarding DUCs which recognizes those DUCs that have been designated by the County of Nevada, the Cities of Grass Valley and Nevada City, and the Town of Truckee. The County has identified five DUCs in the unincorporated portion of the County: Penn Valley; Rough and Ready; North San Juan; Washington; and Soda Springs. Additionally, the City of Grass Valley has identified the Alta Hill area as a DUC. Soda Springs is within the area served by the Donner Summit PUD as described in Chapter 5. All DUC areas receive adequate water, wastewater, and fire protection services with no public health or safety issues identified.

Present and Planned Capacity of Public Facilities

The two Districts have sufficient capacity to serve existing customers. Facilities will be able to accommodate future growth to at least 2025 since the 2008-2010 economic downturn resulted in reduced population growth, thereby extending the capacity of current facilities. However, the Districts’ ability to meet future demand for water services will depend on the rate of future population growth and the associated private development of new housing and commercial

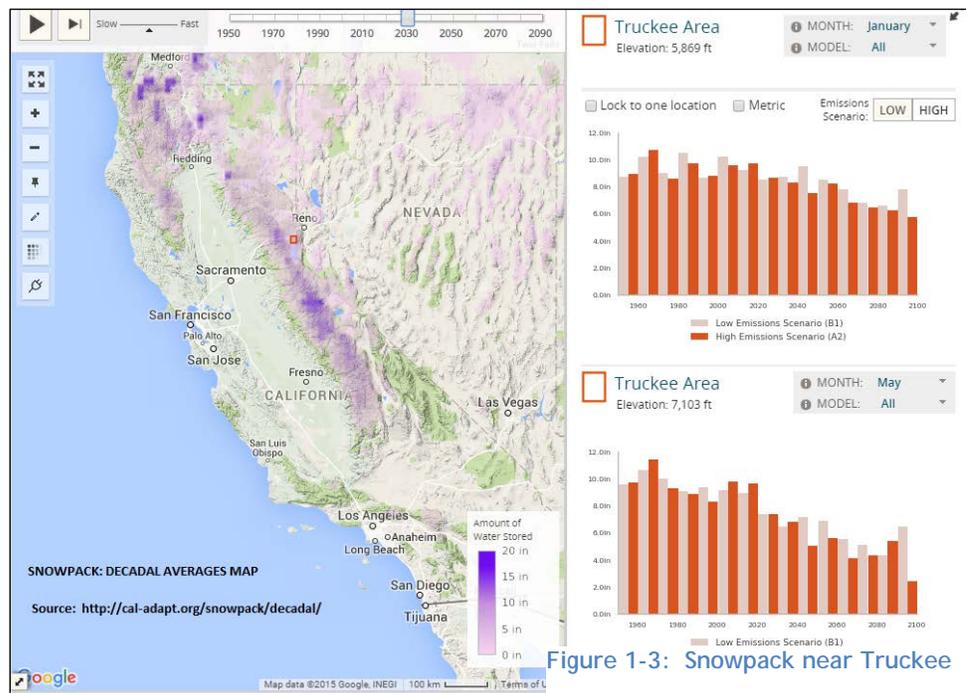


Figure 1-3: Snowpack near Truckee

facilities. The infrastructure and facilities for both Districts were determined to be in adequate to good condition as described in Chapters 4 and 5. For example, the DSPUD water distribution system delivers water through roughly 11 miles of pipe and includes a number of storage tanks and pressure-regulating devices with enough capacity in the system to roughly double the existing number of services. This MSR also studies compliance with state water quality regulations.

Financial Ability of the District to Provide Services

TDPUD has sufficient financing mechanisms in place to ensure short and long-term provision of services within its current service area. The DSPUD's current financing level is adequate to deliver current services, however rates should be reviewed and adjusted to fund District costs and provide for capital improvements as needed. TDPUD has multiple sources of revenue including: sales to customers, interdepartmental sales, standby fees, other investment income, and gain on disposition of assets. In 2017, TDPUD's total revenue for the water utility was \$12.3 million. For the TDPUD, total revenue was less than the operating expenditures in each of the three study years (FY 2015, 2016, and 2017). Capital contributions were used to make up for the difference. It is recognized that capital improvement projects are expensive and necessary.

Opportunities for Shared Facilities

Although no opportunities for shared facilities were identified by the TDPUD during the preparation of this MSR, the TDPUD does collaborate with other local agencies such as the Truckee Police Department and the County Sheriff's Office. It is recommended that TDPUD consider opportunities to share corporate yards, specialized equipment and office space with neighboring agencies, cities and districts such as the Town of Truckee, the NorthStar Community Services District, and the Truckee Sanitary District when possible. DSPUD is sharing facilities with another district, the Sierra Lake County Water District (SLCWD) with regards to sewer (not water) service; however, it is suggested that the District continue to work with SLCWD as future collaboration projects arise. In addition, DSPUD services may be improved with an examination of the current government structure to determine if efficiencies could be gained by reorganizing DSPUD and SLCWD.

Accountability for Government Service Needs

In an MSR, LAFCo is required to make a determination about a district's government structure and accountability. In this case, each of the two Districts provides adequate public notice in relation to District meetings and both Districts are in compliance with the Brown Act. Each District also provides transparency through an online presence offering ease of accessibility to information and services to the public and customers.

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Chapter 2: RESOLUTION

Resolution #19-15 is shown on the following pages.

Resolution 19-15
of the
Local Agency Formation Commission
of
Nevada County, California

*Approving a Municipal Service Review of Water Services in Eastern Nevada County and Adopting
Written Determinations Thereon*

WHEREAS, the Sphere of Influence Plan is the primary planning tool for LAFCo and defines the probable physical boundaries and service area of a local agency; and,

WHEREAS, California Government Code Section 56425 requires that a Local Agency Formation Commission (“LAFCo”) adopt and periodically review Sphere of Influence Plans for all agencies in its jurisdiction; and,

WHEREAS, California Government Code Section 56430 requires that prior to updating or adopting the Sphere of Influence Plan of an agency, the LAFCo shall conduct a review of the municipal services provided by the agency; and,

WHEREAS, the Nevada Local Agency Formation Commission has contracted with independent consultant SWALE, Inc. for the preparation of a Municipal Service Review of water services provided within the geographic area of eastern Nevada County, including the services provided by the Truckee Donner Public Utility District and the Donner Summit Public Utility District; and

WHEREAS, the consultant has prepared a Municipal Service Review titled *Water Services in Eastern Nevada County*, in accordance with the provisions of Government Code Section 56430 and Commission policy, and

WHEREAS, on May 23, 2019, the Commission held a workshop on the preliminary draft of the Municipal Service Review and directed staff to circulate the draft to the public and affected agencies for comment; and,

WHEREAS, at the time and in the manner provided by law, the Executive Officer gave notice of the date, time, and place of a public hearing by the Commission upon the Municipal Service Review titled *Water Services in Eastern Nevada County*, including approval of the report and adoption of the written determinations contained therein; and,

WHEREAS, the Commission hereby determines that the final draft of the Municipal Service Review titled *Water Services in Eastern Nevada County*, and the written determinations contained therein will provide information for updating the sphere of influence of the Truckee Donner Public Utility District and is otherwise consistent with the purposes and responsibility of the Commission for planning the logical and orderly development and coordination of local governmental agencies so as to advantageously provide for the present and future needs of the county and its communities; and,

WHEREAS, in making this determination, the Commission has considered the documentation on file in this matter prepared by the consultant and submitted by other interested agencies and individuals; and,

WHEREAS, the Commission has heard all interested parties desiring to be heard and has considered the proposal and report by the Executive Officer and all other relevant evidence and information presented at said hearing;

NOW, THEREFORE, the Local Agency Formation Commission of Nevada County hereby resolves, orders and determines the following:

- 1) The Municipal Service Review titled *Water Services in Eastern Nevada County* is approved and the written determinations for the Truckee Donner Public Utility District District contained in Section 4 of the MSR, extracted and attached hereto as *Exhibit A*, are hereby adopted.
- 2) The Commission finds that this project qualifies for a Categorical Exemption to the California Environmental Quality Act under Article 19, Class 6 (Section 15306) of the Guidelines for Implementation of CEQA, Information Collection (which does not result in disturbance of an environmental resource).
- 3) LAFCo staff is directed to utilize the approved MSR for updating the sphere of influence of the Truckee Donner Public Utility District, as provided for by the Commission's schedule for sphere updates.
- 4) LAFCo staff is further ordered to forward copies of the adopted Municipal Service Review to all appropriate agencies, including each subject service provider.

The foregoing resolution was duly passed by the Local Agency Formation Commission of Nevada County at a regular meeting held on July 18, 2019, by the following roll call vote:

Ayes: Aguilar, Anderson, Beckenbach, Miller, Minett, Susman, Grundel

Noes: none

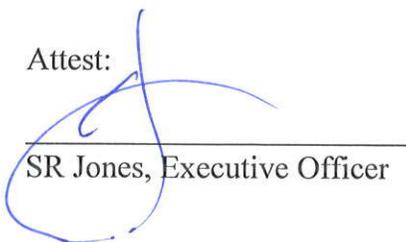
Absentions: none

Absent: none

Signed and approved by me after its passage this 18th day of July, 2019.


Kurt Grundel, Chair
Nevada LAFCo

Attest:


SR Jones, Executive Officer

Growth and Population Projections

1. The Truckee Donner Public Utility District (TDPUD) provides water services to approximately 13,000 equivalent dwelling units (EDUs), including commercial facilities as of 2019.
2. The most recent Sphere of Influence (SOI) update in 2013 identified near-term and long-term annexation areas, generally encompassing the Town of Truckee boundaries and SOI. TDPUD's 47.35 square mile boundary area includes the Town of Truckee and neighborhoods in unincorporated areas of Placer and Nevada Counties.
3. Between the years 2016 and 2040, an additional 2,418 persons are expected to reside within TDPUD's boundaries as determined by the Slow Growth Rate shown in Table 4-6 This represents an overall 12 percent increase in projected future population.
4. Since the Town of Truckee General Plan did not foresee the economic downturn beginning in 2009, its population projections differ from the current reality; with the population decreasing between 2010 and 2015. This suggests that the Town will have enough land and infrastructure to accommodate future population growth past 2025. The TDPUD has sufficient physical infrastructure capacity to accommodate existing levels of development. If the Town approves new residential commercial or residential development additional infrastructure, such as water pipes, pumps, or wells may be needed to serve those projects. The Town and the TDPUD regularly communicate about development projects and plans for growth.
5. Due to the boundary differences between the TDPUD's water and electrical service areas, and the limit of this MSR update to only analyze water services, it is recommended that LAFCo prepare an electrical service boundary map for the TDPUD prior to the next SOI update.

Disadvantaged Unincorporated Communities

6. According to the U.S. Census, the median household income (MHI) for the State was \$61,489 in 2014 (US Census, ACS, 2010-2014). This yields a disadvantaged unincorporated community (DUC) threshold MHI for less than \$49,191 (80 percent of the State MHI). As of 2014, the median household income (MHI) in the Town of Truckee was estimated to be \$72,159. This is significantly higher than the DUC threshold MHI.
7. No unincorporated areas were identified as DUC's within the TDPUD's boundaries or SOI.

Present and Planned Capacity of Public Facilities

8. TDPUD is the sole public provider of water service within its boundaries, although there are also individual privately-operated wells for domestic use present.
9. DWR estimates there are 294 existing groundwater wells in the MVGWB including both public and private wells. The Basin Area covers 36,357 acres.
10. The District has constructed water supply wells as necessary to provide service to growth within the service area. For example, the Old Greenwood Well was constructed in 2005 and placed into service in 2006. The Fibreboard Well was placed into service in 2009.

11. TDPUD operates two water systems in the Truckee area: Hirschdale System (PWS CA 2910010), and Truckee System (PWS CA 2910003). These two systems are not interconnected and are physically separated by geographic and topographic distance. The Hirschdale System serves 24 accounts. The Truckee System provides treated water to nearly 13,000 connections (12,300 residential, 700 commercial).
12. The Truckee-Carson-Pyramid Lake Water rights Settlement Act (Settlement Act), Public Law 101-618 was adopted by Congress and Signed by the President in 1990. The Settlement Act limits the State of California's total water use for the Truckee River basin (including the MVGB) to 32,000 acre-feet per year, including use of both surface and groundwater (Settlement Act, Sec. 204(c)(1)) (TDPUD et. al., 2016). The Settlement Act's Section 205 directs the federal Department of Interior to negotiate an operating agreement, which has since become known as the Truckee River Operating Agreement (TROA). The TROA sets maximum municipal and industrial water use for California, which limitation is more than two times greater than the current production from the Martis Valley Basin for all public and private groundwater users.
13. TDPUD estimates that the Martis Valley Groundwater Basin (MVGB) can sustain groundwater extraction of between 22,000 – 25,000 acre-feet per year (AFY) without adversely affecting the long-term storage of the Basin (TDPUD et. al. 2016).
14. The current production of groundwater from the MVGB is estimated by TDPUD to be approximately ~7,000 Acre-Feet per Year (AFY) (TDPUD et. al. 2016). In the past LAFCO has noted production at 9,151.7 AFY (Nevada LAFCO, 2003 MSR).
15. TDPUD projects that future demand for groundwater could reach ~13,000 AFY at build out. However, this projected future water demand may be a low estimate as described in Appendix 14.
16. The maximum total net depletion as defined in the TROA Settlement Act is set at 17,600 AFY.
17. Groundwater pumping in the MVGB represents less than 2% of the system's total water budget and is closer to 1% when returns to the water system from the regional sewage treatment plan are considered (TDPUD et. al. 2016).
18. TDPUD considers groundwater the preferred water source, since an abundant supply currently exists. Although the use of surface water to supply future demand could be considered a long-term option if it is determined to be a more cost-effective solution, significant new infrastructure would be required to access surface water supplies. Additional studies would be needed to compare the cost effectiveness and environmental impacts of surface water supplies as compared to groundwater supplies as demand approaches buildout conditions.
19. If the update to the Truckee General Plan allows population growth (both residents and visitors) that approaches the MSR "fast-growth" scenario, then TDPUD and the Town of Truckee should closely coordinate regarding demands on future water supply. When TDPUD next updates its UWMP, expected in 2020, it should utilize future population projections that are consistent with the projections of the Town and both Nevada and Placer Counties.
20. TDPUD should closely monitor the Town of Truckee's General Plan Update process. TDPUD should ensure the Town understands that if future population growth approaches the MSR "fast-growth" scenario, extra care will be necessary when calculating future water demand in light of TROA limitations and other water supply constraints.

21. Both TDPUD and the Town of Truckee should continue to consider cumulative future water demand on the MVGWB and should ensure the SGMA sustainability criteria will be met.
22. The 2015 Water Master Plan Update and other TDPUD studies have identified needed improvements to the existing infrastructure. The majority of these improvement projects are related to pipeline replacement.
23. As of 2015 TDPUD operated 12 wells in the MVGB as listed in Table 4-21 and in 2016 one well was dropped for a new total of eleven (11) active municipal wells. The eleven active potable water supply wells are in compliance with the 10 µg/L limit for arsenic. Two of the wells are equipped with arsenic removal systems to ensure compliance with the arsenic requirements.
24. Radon is a colorless, odorless, and tasteless gas that comes from the natural breakdown of uranium in rocks and soil. EPA has been concerned about the potential risk of drinking water containing radon and the link to a risk of stomach cancer. In the year 2000, the EPA considered proposed radon regulations; however, to date those have not been finalized. At the time, the preliminary EPA announcement indicated that the maximum allowable radon would likely be 300 picocuries per liter. TDPUD does manage and treat its water. If the EPA were to consider new standards in the future, the TDPUD would likely be able to study how to best meet those standards.
25. TDPUD does not provide extra-territorial water services.

Financial Ability of District to Provide Services

26. The Consolidated Financial Statement and budgets are prepared for a two-year timeframe and they clearly and transparently present financial information.
27. TDPUD reserve policy is incorporated into Title 3 of the District Code which is posted on the District website.
28. TDPUD's consolidated Financial Statement contains several accounting policies. Additionally, the District Code describes its purchasing Policy, with specific procedures for purchases and procurement practices.
29. Employee wage scale by bargaining unit and the unrepresented employee wage scale are available on the PUD website. Required reports are sent to the California State Controller for Government Compensation.
30. TDPUD's total revenue was less than the total expenditures in each of the three study years. Capital contributions were made to fund capital improvement projects during this timeframe and it is recognized that capital improvement projects are expensive and necessary. Many water districts in California are in a similar situation.
31. Changes to the Net Position are shown in Table 4-25 and Table 4-31, to be highly variable. However, the decline in Net Position of -\$3.9 million in FY2014 to 2015 was predominately due to Period Adjustment per Implementation of GASB 68.
32. Rates for water service were adopted by the TDPUD Board of Directors via Ordinance No. 2015-01 on August 19, 2015.

33. The process for adopting rates are consistent with Proposition 218 and TDPUD's Ordinance No. 2015-01 and the minutes from the August 19, 2015 public meeting describes consistency with state laws.
34. Rates are readily available to constituents. Specifically, rates are displayed on the District's website at: <<https://www.tdpud.org/departments/water/rates-fees>>.

Opportunities for Shared Facilities

35. In the Truckee area, eight local government agencies have overlapping boundaries: Town of Truckee, Truckee-Donner Public Utility District, Truckee Fire Protection District, Truckee Donner Rec and Park District, Tahoe-Truckee Sanitation Agency, Tahoe Forest Hospital District, Truckee Tahoe Airport District, and the Truckee Sanitary District. Additionally, the Northstar Community Services District in geographic proximity to the south and the Donner Summit PUD is located west of TDPUD.
36. The financial, administrative, and technical feasibility of connecting TDPUD to either the Northstar CSD or the Donner Summit PUD water systems has not been studied. However, due to topography, the geographic distance between water service providers, and the manner in which water distribution systems are designed, sharing facilities such as treatment facilities, water pumps and distribution infrastructure with Donner Summit PUD might face several hurdles. It is possible that additional sharing of facilities (such as office space, corporation yards and specialized equipment) with Northstar CSD may be workable in the future, but this would need further evaluation.
37. TDPUD works cooperatively with its neighboring government agencies including the Truckee Police Department and the County Sheriff among others. TDPUD has an intertie agreement with the Northstar CSD (as part of the former PCWA Zone 4). Additionally, since TDPUD also provides electricity services, district is able to distribute the cost of shared resources and facilities among its utility units (i.e. electricity and water)
38. TDPUD cooperates with the local watershed association and the Tahoe Sierra Integrated Regional Water Management Plan (IRWMP) as described on the Plan website at: <http://tahoesierrairwm.com/>. The PUD's participation in these efforts demonstrates regional cooperation.
39. Since new development pays the entire cost of new infrastructure that is required to accommodate the new development through payment of connection fees to TDPUD, there is little additional opportunity to eliminate costs attributable to accommodating additional growth.

Accountability for Community Service Needs

40. The governance structure of TDPUD is that of an independent special district governed by a five-member board elected at-large from within District boundaries.
41. The TDPUD Board of Directors holds public meetings on a regular basis, scheduled for the first and third Wednesdays of the month at 6:00 PM. Meetings are located at the Board Room of the Truckee Donner Public Utility District, 11570 Donner Pass Road, Truckee, California.

42. TDPUD Board meetings are noticed according to the Brown Act and the meetings provide an opportunity for public comment. Meeting notices are publicly posted on the Friday prior to the Wednesday Board meetings. Agendas and board packet information are available to the public at the TDPUD website, <https://www.tdpud.org/board/board-meetings>, and emailed to a list of interested parties upon request.
43. A key performance indicator suggests that archives of meeting minutes and agendas for three years be available on the district's website. Agendas and associated packets are available on the PUD website for 2016, 2017, and 2018. Meeting minutes are available going back to 2015. Provision of archival meeting material demonstrates transparency.

Any Other Matters Related to Service Delivery as Required by LAFCo Policy

44. There are no other aspects of the water service required to be addressed in this report by LAFCo policies that would affect delivery of services.

Chapter 3: INTRODUCTION



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3.1: ROLE AND RESPONSIBILITY OF LAFCO

Local Agency Formation Commissions (LAFCo’s) are independent agencies that were established by state legislation in 1963 in each county in California to oversee changes in local agency boundaries and organizational structures. It is LAFCo’s responsibility to:

- oversee the logical, efficient, and most appropriate formation of local cities and special districts;

- provide for the logical progression of agency boundaries and efficient expansion of municipal services;
- assure the efficient provision of municipal services; and
- discourage the premature conversion of agricultural and open space lands. (Government Code [GC] §§ 56100, 56301, 56425, 56430, 56378).

The Cortese-Knox-Hertzberg (CKH) Local Government Reorganization Act of 2000 (CKH Act) requires each LAFCo to prepare a Municipal Service Review (MSR) for its cities and special districts. MSRs are required prior to and in conjunction with the update of a Sphere of Influence (SOI). This review is intended to provide Nevada LAFCo with the necessary and relevant information related to two water service providers within the eastern portion of Nevada County.

3.2: ABOUT NEVADA LAFCO

Although each LAFCo works to implement the CKH Act, there is flexibility in how these state regulations are implemented so as to allow adaptation to local needs. As a result, Nevada LAFCo has adopted policies, procedures and principles that guide its operations (adopted on April 28, 1994 and last updated on March 22, 2018). The policies and procedures can be found on Nevada LAFCO's website (<https://www.mynevadacounty.com/963/Policies-Procedures>).

In addition to providing background information for a future update of an agency's sphere of influence, an MSR is an information tool that can be used to facilitate cooperation among agency managers and LAFCo to achieve efficient delivery of services. Describing existing efficiencies in service deliveries and suggesting new opportunities to improve efficiencies is a key objective of this MSR, consistent with Nevada LAFCo's purposes. Since this MSR Update will be published on the LAFCo website, it also contributes to Nevada LAFCo's principle relating to public accessibility and accountability. A public workshop was conducted by Nevada LAFCo on a Preliminary Draft MSR on May 16, 2019, thereby contributing to the aim of encouraging an open and engaged process. The Public Review Draft MSR was considered on July 18, 2019.

This MSR was written under the auspices of Nevada LAFCo. The mission of Nevada LAFCo is to serve the citizens, governmental agencies, and applicants of its jurisdiction by using its authority, knowledge, and expertise to make beneficial changes to the structure of public agencies through special studies, programs, and actions resulting in the resolution of conflicts; orderly growth, development and governance; cost-effective delivery of services; and timely processing of applications (Nevada LAFCo, 2015).

Nevada LAFCo has a public Commission with seven regular Commissioners and four alternate Commissioners as follows:

Commissioners

- County Members
 - Richard Anderson, Supervisor, District 5
 - Dan Miller, Supervisor, District 3
 - Sue Hoek, Supervisor, District 4 (Alternate)

- Cities/Town Members
 - Ben Aguilar, Councilmember, City of Grass Valley
 - Erin Minett, Councilmember, Nevada City
 - Anna Klovstad, Councilmember, Truckee (Alternate)
-
- Special District Members
 - Kurt Grundel (Chair), Board Member, Penn Valley Fire Protection District
 - Nick Wilcox, (Vice Chair), Board Member, Nevada Irrigation District
 - Ed Beckenbach, Board Member, North San Juan Fire Prot. District (Alternate)
- Public Members
 - Josh Susman
 - Gloria Glenn (Alternate)

Staff / Administrative

- SR Jones, Executive Officer
- P. Scott Browne, Legal Counsel
- Deborah Gilcrest, Clerk/Analyst
- Marianna Brewer, Accounting

3.3: PURPOSE OF THE MUNICIPAL SERVICE REVIEW

MSRs are intended to provide a comprehensive analysis of services provided by each of the special districts and other service providers identified within an MSR, and that fall under the legislative authority of the LAFCo. This review studies two service providers located in the eastern portion of Nevada County: the Truckee Donner Public Utility District and the Donner Summit Public Utility District. This review also provides technical and administrative information to support Nevada LAFCo’s future evaluation of the existing boundary and sphere of influence for the Truckee Donner Public Utility District. Although the Donner Summit Public Utility District is under the auspices of Placer LAFCo as the principal LAFCo, it is included herein because it provides critical services to portions of Nevada County. A regional map showing the boundaries and sphere of influence for each district is shown as Figure 3-1 (next page) With this MSR Update, Nevada LAFCo can make informed decisions based on the best available data for each service provider and area.

Written determinations, as required by law, are presented following the analysis of each District in Chapters 4 and 5. LAFCo is ultimately the decision maker on approval or disapproval of any determinations, policies, boundaries, and discretionary items. This MSR Update makes determinations in each of seven mandated areas of evaluation, providing the basis for Nevada LAFCo to review proposed changes to a service provider’s boundaries or SOI. An SOI is defined in GC § 56425 as “a plan for the probable physical boundary and service area of a local agency or municipality as determined by the Commission.” LAFCo is required to adopt an SOI for each municipality and each agency in its jurisdiction. When reviewing and determining SOI’s for the

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two water service providers, LAFCo will consider and make recommendations based on the following information:

- The present and planned land uses in the area;
- The present and probable need for public services and facilities in the area;
- The present capacity of public facilities and adequacy of public services that the agency provides;
- The existence of any social or economic communities of interest in the area if LAFCo determines that they are relevant to the service provider; and
- The presence of disadvantaged unincorporated communities for those agencies that provide water, wastewater, or structural fire protection services.

Ideally, an MSR will support not only LAFCo but will also provide the following benefits to the subject agencies:

- Provide a broad overview of agency operations including type and extent of services provided;
- Serve as a prerequisite for a sphere of influence update;
- Evaluate governance options and financial information;
- Demonstrate accountability and transparency to LAFCo and to the public; and
- Allow agencies to compare their operations and services with other similar agencies.

3.4 METHODOLOGY FOR THIS MSR

The CKH Act indicates that LAFCo should review and update a sphere of influence every five years, as necessary, consistent with GC § 56425(g) and § 56106¹. The MSR for the Truckee Donner PUD was last updated in November 2005 as part of the East County Water Services Municipal Service Review and approved as part of LAFCo Resolution No. 05-09. The MSR for the Donner Summit PUD was last updated by Nevada LAFCo in 2004. Subsequently, Placer LAFCo published an MSR Update for the Donner Summit PUD on August 8, 2018 and information from the 2018 MSR was used for this current analysis of the Donner Summit PUD as presented in Chapter 5.

This MSR Update evaluates the structure and operation of each of the water service providers and determines the capacity of each water agency to service existing users, and accommodate additional service demands while evaluating timing and local issues. Key references and information sources for this study were gathered and include: published reports; review of agency files and databases (agendas, minutes, budgets, contracts, audits, etc.); master plans; capital improvement plans; engineering reports; environmental impact reports; finance studies; general plans; and state and regional agency information (permits, reviews, communications, regulatory requirements, etc.).

The consulting team, in coordination with the Nevada LAFCo Executive Officer, sent the Truckee Donner Public Utility District a Request for Information (RFI) in 2017. Additionally, the

¹ The CKH Act (GC § 56106) states that all timeframes are directives. Any provision governing the time in which Commission is to act, is deemed directory rather than mandatory.

consulting team, in coordination with the Placer LAFCo Executive Officer, sent the Donner Summit PUD a Request for Information (RFI) in 2013. Members of the consultant team also visited with the Truckee Donner Public Utility District and personally interviewed District representatives during a kick-off meeting held on November 8, 2017. Each District’s response to LAFCo’s request for information is a key information source utilized in this analysis. This MSR forms the basis for specific judgments, known as determinations, about each agency that LAFCo is required to make (GC § 56425, 56430). These determinations are described in the MSR Guidelines from the Office of Planning & Research (OPR) as set forth in the CKH Act, and they fall into seven categories, as listed below:

1. Growth and population projections for the affected area;
2. Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence;
3. Present and planned capacity of public facilities and adequacy of public services including infrastructure needs or deficiencies;
4. Financial ability of agency to provide services;
5. Status of, and opportunities for, shared facilities;
6. Accountability for community service needs, including government structure and operational efficiencies; and
7. Any other matter related to effective or efficient service delivery, as required by commission policy.

An MSR must include an analysis of the issues and written determination(s) for each of the above determination categories.

Water Quality and State Databases

The protection of agricultural resources and open space is one of LAFCo’s key purposes as noted in the CKH Act. Natural streams and rivers are part of our system of open space and water quality is an important factor in their protection. Since water systems all have a risk of water quality problems, several water quality databases were queried for the eastern part of Nevada County. The results of these database queries are presented in Chapters 4 and 5.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) is contained in Public Resources Code § 21000, et seq. Under this law, public agencies are required to evaluate the potential environmental effects of their actions. This MSR is exempt from CEQA under a Class 6 categorical exemption. CEQA Guidelines § 15306 states that “Class 6 consists of basic data collection, research, experimental management, and resource evaluation activities that do not result in a serious or major disturbance to an environmental resource.” It should be noted that when LAFCo acts to establish or update a SOI for the agencies, an environmental document could be needed to satisfy CEQA requirements. The lead agency for this future document would most likely be LAFCo.

3.5: PUBLIC PARTICIPATION

LAFCO conducted a public workshop on the Preliminary Draft MSR Update on May 16, 2019. Comments from the public were solicited prior to and during this May 16th meeting. Based on these comments, the consultant made minor edits to the MSR and published the Public Review Draft MSR. The Commission held a public meeting on the Public Review Draft MSR on July 18, 2019 and the Commission adopted Resolution #19-15 approving the MSR.

After this MSR Update is finalized, it will be published on the Commission’s website (<https://www.mynevadacounty.com/907/Local-Agency-Formation-Commission-LAFCo>), thereby making the information contained herein available to anyone with access to an internet connection. A copy of this MSR Update may also be viewed during posted office hours at LAFCo’s office located at 950 Maidu Avenue, Nevada City, CA 95959. In addition to this MSR, LAFCo’s office maintains files for each service provider and copies of many of the planning documents and studies that were utilized in the development of this MSR. These materials are also available to the public for review.

3.6: OTHER SERVICE PROVIDERS

Residents of the Truckee area receive public services from an array of service providers as listed in Table 3-1, below.

Table 3-1: Local Agency Service Providers

Agency	Legislative Authority	Service Offered
Town of Truckee	California Government Code	Law enforcement, planning services, building inspection, road maintenance, snow removal, economic development, and transit service.
Truckee Sanitary District	Sanitary District Act	Wastewater collection services
Tahoe Forest Hospital District	Local Hospital District Act	Health care services
Tahoe Truckee Unified School	District California Education Code	Educational services
Truckee Donner Recreation and Park District	Public Resources Code	Park and recreational services
Truckee Fire Protection District	Health and Safety Code	Rescue and emergency services
Truckee Tahoe Airport District	Airport District Act	Airport services
Tahoe-Truckee Sanitation District	Tahoe-Truckee Sanitation Agency Act	Wastewater treatment services

The services provided by these agencies are described in other Municipal Service Reviews by Nevada LAFCo and Placer LAFCo. This particular MSR focuses on water service provided by the Donner Summit Public Utility District and the Truckee Donner Public Utility District as described in Chapters 4 and 5.

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CHAPTER 4: TRUCKEE DONNER PUBLIC UTILITY DISTRICT



Aerial photo courtesy of google earth

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4.1 SERVICES, FORMATION, AND BOUNDARY

Background Information

The Truckee Donner Public Utility District (TDPUD) was formed in 1927 to provide electrical services to the Truckee area. In 1935, the District added water services to the downtown in addition to existing electrical services. The water system expanded to serve the Gateway and Meadow Park neighborhoods in the late 1940s with significant expansion occurring in the 1960s as new residential subdivisions were constructed in the area. Prior to 2001, two other water purveyors also provided services to the greater Truckee area. The District acquired the assets of the Donner Lake Water Company in 2001 and the Glenshire Mutual Water Company in 2002. Significant development occurred during the 2000s with a large number of infill homes constructed on vacant lots and new subdivisions developed including Old Greenwood and Gray’s Crossing. Non-residential development included the Alder Creek Middle School, Pioneer Commerce Center and the Sierra College Campus. As of 2018, there has been minimal new development within the service area with growth generally involving infill construction of previously vacant residential lots in existing subdivisions. Today, the District is the largest water purveyor in the region. Table 4-1 provides a summary of TDPUD expansions from 1927-2002.

Table 4-1: TDPUD Milestones and Expansions (1927-2002)

Date	Action
1927	TDPUD formed to provide electricity to Truckee area
1935	Purchase McGlashen water system
1943	Acquired Southside Spring
1940’s	Expanded service from downtown Truckee to Gateway and Meadow Park
1953	Acquired Tonini Spring water system
Early 1960’s	Extended service to Olympic Heights
Mid 1960’s	Extended service to Sierra Meadows
Late 1960’s	Extended service to Tahoe Donner, Prosser Lakeview, Ponderosa Palisades
Late 1970’s	Extended service to the Armstrong Area
1998	Contracted with Placer County Water Agency to operate Lahontan Water System
2001	Acquired Donner Lake Water System (most of which was already within the PUD’s boundaries)
2002	Acquired Glenshire Mutual Water Company (this area was annexed into the PUD boundaries in 2002)

Data Source: The above table showing the timeline for the expansion of TDPUD’s water system is from the September 2013 Sphere of Influence Plan Update Truckee Donner Public Utility District by Nevada LAFCo (Table 1 on page 15 of that document), TDPUD 2007

TDPUD is a multi-county district serving portions of both Nevada County and Placer County. Nevada LAFCo is the Principal LAFCo for TDPUD because the greater portion of the assessed value of all taxable property within the District boundaries, is located within Nevada County

consistent with state law (GC § 56066). The TDPUD's service area includes the major population center of the Town of Truckee and sparsely populated surrounding areas (Nevada LAFCo, 2013). As a Public Utility District, TDPUD operates consistent with its principal act, the Public Utility District Act of 1923. TDPUD's Main Office is located at 11570 Donner Pass Road, Truckee, CA 96161. The District's General Manager is Michael Holley who can be contacted at email address: michaelholley@tdpud.org. An alternate contact is Shanna Kuhlemier at email: shannakuhlemier@tdpud.org. Information is shared with the public at the web site URL at: <http://www.tdpud.org/>. TDPUD's elected Board of Directors meets twice monthly on the first and third Wednesdays at 6:00 PM (TDPUD, 2017b).

Services and Location

Type and Extent of Services

The Truckee Donner Public Utility District provides several services to its customers including:

- Municipal water service provision including treatment to drinking water standards and distribution to its customers.
- Electrical service to residential, commercial, and institutional customers.

TDPUD operates under the provisions of the Public Utility District Act, found in Sections 15501 - 18055 of the CA Public Utility Code (PUC) (see <http://leginfo.legislature.ca.gov/>). This principal act allows a "Public Utility District to provide a variety of services, including operation of works for supplying light, water, power, heat and disposition of garbage, sewage or refuse." (San Diego LAFCO, 2013). Specifically, more detailed information about the type of services that public utility districts can generally provide is listed in PUC Sections 16461, 16461.10, 16463 and 16463.5. However, this MSR only analyzes the TDPUD's provision of municipal water services. The Truckee Donner Public Utility District operates and maintains an extensive municipal water distribution system (TDPUD, 2015). The District operates two water systems in the Truckee area: the Hirschdale System (PWS CA2910010) and the Truckee System (PWS CA2910003) (TDPUD, 2015). The TDPUD provides water services to approximately 17,000 customers using 13,000 connections (TDPUD, 2017b and 2019). The water system primarily services residential customers, with small businesses and restaurants contributing only a small percent of the total municipal water demand. TDPUD does not service any heavy industrial customers. The District relies entirely on groundwater for the community's water supply with the vast majority coming from the Martis Valley Basin which covers portions of Nevada and Placer Counties. Under the Sustainable Groundwater Management Act (SGMA), the Martis Valley Groundwater Basin has been re-prioritized to very low. A previous Alternate Submittal¹ for SGMA compliance has been removed as it is no longer legally required. The District's existing

¹ Previously, in 2016, the TDPUD in partnership with the Town of Truckee, Northstar CSD, Placer County, Nevada County, and the Placer County Water Agency submitted the Martis Valley Groundwater Basin Alternative to comply with the Sustainable Groundwater Management Act. This Alternate Submittal has since been removed by TDPUD.

wells and other facilities have sufficient capacity to meet current demands during dramatic seasonal changes, with summer demands significantly higher than winter demands (TDPUD, 2017b).

Location and Size

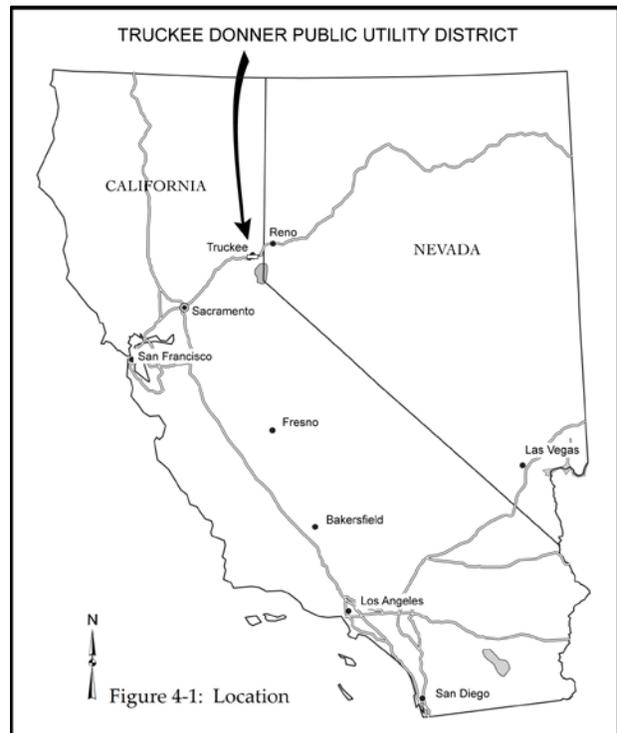
The District is located on the eastern side of the Sierra Nevada as shown in Figure 4-1 and it encompasses 45.4 square miles in eastern Nevada County and about 1.9 square mile in eastern Placer County. Within the District boundaries can be found the incorporated area of the Town of Truckee and unincorporated residential areas commonly known as Ponderosa Palisades, Prosser Lake Heights, and Ponderosa Fairway Estates, among others. The Town of Truckee is the socioeconomic center of the District area. In addition to the TDPUD’s established boundary, LAFCo has also designated a Sphere of Influence and Area of Interest for the District as listed in Table 4-2, below.

Table 4-2: Geographic Summary		
	Nevada County	Placer County
TDPUD Boundary	29,068 acres	1,238 acres
Sphere of Influence Near-term (water)	449 acres	0 acres
Sphere of Influence Long-term (water)	1,395 acres	0 acres
Area of Interest	17,665 acres	0 acres
Grand Total - Boundary, NT-SOI, LT-SOI, and AOI	49,815 acres	

(Source: Nevada County LAFCO, 2003; GIS Data from TDPUD and LAFCo and calculated by SWALE Inc.)
The electrical near term SOI is not listed above, but is estimated to be approximately 3,168 acres

Formation and Boundary

The Truckee Donner Public Utility District (TDPUD) was formed on August 9, 1927 under the California statutes at the time relating to the formation of a public utility district. The TDPUD is one of two publicly owned water service agencies in eastern Nevada County (the other being the Donner Summit Public Utility District). It is a non-profit utility district that provides water and electric services (Nevada County, 2005). As a Public Utility District, TDPUD operates consistent with its principal act, the California Public Utility District Act of 1923 (CA Pub Utilities Code § 15501- 18055). Additionally, many other state and federal regulations apply to water service and to the TDPUD.



Public water service in the Truckee area began in 1880 to supply the Schaeffer Lumber Company. In 1883, the McGlashen infiltration gallery was constructed and in 1885, the adjacent McGlashen Springs was developed (TDPUD, 2016).

Boundary History

For the first 20 years of its existence, beginning in 1927, the Truckee Public Utility District served only a few dozen houses and shops in the downtown Truckee area, providing only electricity. As the area grew, residents began to see the PUD as a means to meet other local needs (TDPUD, 2012). In 1935, the District purchased the McGlashen water system to provide water services in addition to the existing electrical services. Originally, the TDPUD only provided services to the downtown area of Truckee. The District acquired the Southside Spring in 1943 and the Tonini Springs in 1953 (TDPUD, 2016). The system expanded to serve the Gateway and Meadow Park areas in the late 1940s with significant expansion occurring in the 1960s to accommodate the new residential subdivisions constructed in the area during that time (Nevada LAFCo, 2005).

Interstate 80 was completed in 1964 and resulted in an increase of tourists and new Truckee residents. A new agricultural inspection station was built on the freeway and the District purchased the old station for its headquarters (TDPUD, 2012). The District added the Olympic Heights area in the early 1960s and the Sierra Meadows area in the mid-1960s (TDPUD, 2016). It was also during this time that the District acquired the Donner Lake distribution facilities and changed its name to the Truckee Donner Public Utility District (TDPUD, 2012). As construction occurred, the District expanded to include the Tahoe Donner², Prosser Lakeview, and Ponderosa Palisades areas in the late 1960s, and the Armstrong area in the late 1970s.

In 2001, the District acquired the Donner Lake Water Company, a water purveyor in the Truckee area. The Donner Lake Water Company was privately operated and the California Department of Health Services issued a boil water notice in 2001 because low pressures and water outages increased the possibility contamination. Water quality issues had been a long-standing concern of local residents. To address this problem, the PUD acquired this system. In February 2002, the District acquired a second water purveyor in the area, the Glenshire Mutual Water Company. The Glenshire Mutual Water Company was originally formed to serve the Glenshire subdivision and was supplied entirely by ground water wells (Nevada County, 1996). This Mutual Water Company experienced water quality issues with arsenic in the system and was financially unable to address those challenges. Therefore, at the request of the Company, the PUD acquired the system. The PUD now serves approximately 1,492 connections in the Glenshire area (Brandis Tallman, 2015). Significant development occurred during the 2000s with new residential developments including Gray's Crossing, Old Greenwood, Spring Creek and Winter Creek. Construction of a large number of infill lots in older subdivisions also occurred at this

² The Tahoe Donner subdivision includes over 6,400 parcels and is represented by the Tahoe Donner Association, which is one of America's largest homeowner's associations.

time. In addition, non-residential development included the Alder Creek Middle School, Pioneer Commerce Center and the Sierra College campus (TDPUD, 2016).

The April 2005 East County Water Services Municipal Services Review and the September 2013 Sphere of Influence Plan Update for the Truckee Donner Public Utility District by Nevada LAFCo indicate that the boundary history for this District has included growth within both Nevada and Placer Counties. However, the majority of the service area, located within Nevada County, generally falls within the boundaries of the Town of Truckee (Nevada LAFCo, 2005). The Town of Truckee, of which a majority of the TDPUD encompasses, was not incorporated until 1993, with the most recent General Plan Update occurring in 2006, the first update since the Town was incorporated (Town of Truckee, 2006).

Significant growth has occurred within the TDPUD service area since the early 2000s including development in both Placer and Nevada Counties. As of 2013, when the TDPUD Sphere of Influence was updated, the District boundary was located almost entirely on the Nevada County side, with a small portion in the Placer County side (Nevada LAFCo, 2013). The proposed areas for future annexation included only areas within the Nevada County side. As of 2014, an additional 62 parcels located within the Placer County side of the District were added to the District boundary. TDPUD’s boundary area in Placer County is 688 acres (GIS Data, Nevada County 2017).

The PUD boundary is unique in that it currently has an established boundary for water service and a slightly different approved boundary for electrical service. Placer LAFCo’s Resolution 2012-02 allowed the annexation of 62 acres into the PUD boundary for purposes of water service, including 28 parcels for only water service and 8 parcels for both water and electrical service. Figure 4-1, shows the water service boundary only (it does not show the electric service boundary). A breakdown of TDPUD annexations for water services from 2002- 2018 can be seen in Table 4-3, below.

Table 4-3. Truckee Donner Public Utility District Annexations (2002-2018)*

Short Form Designation	Resolution #	Date of Approval	# of Parcels	Acreage	Processed By
Glenshire Mutual Water Company	2002-16	November 26, 2002	one	1291.40	Nevada LAFCo
Coyote Run	2003-03	June 27, 2003	one	3.79	Placer LAFCo
Yardas Property	2003-05	August 20, 2003	one	3.25	Nevada LAFCo
Donner Lake	2006-04	April 4, 2007	187	216	Placer LAFCo
Pinyon Creek II and/or Donner Truckee Vet Hospital	2008-01	August 22, 2008	one	1.63	Placer LAFCo
Placer Parcels (Alignment)	2012-02	December 18, 2014	62	566.8	Placer LAFCo

(Data Source: Nevada LAFCo files, 2018)

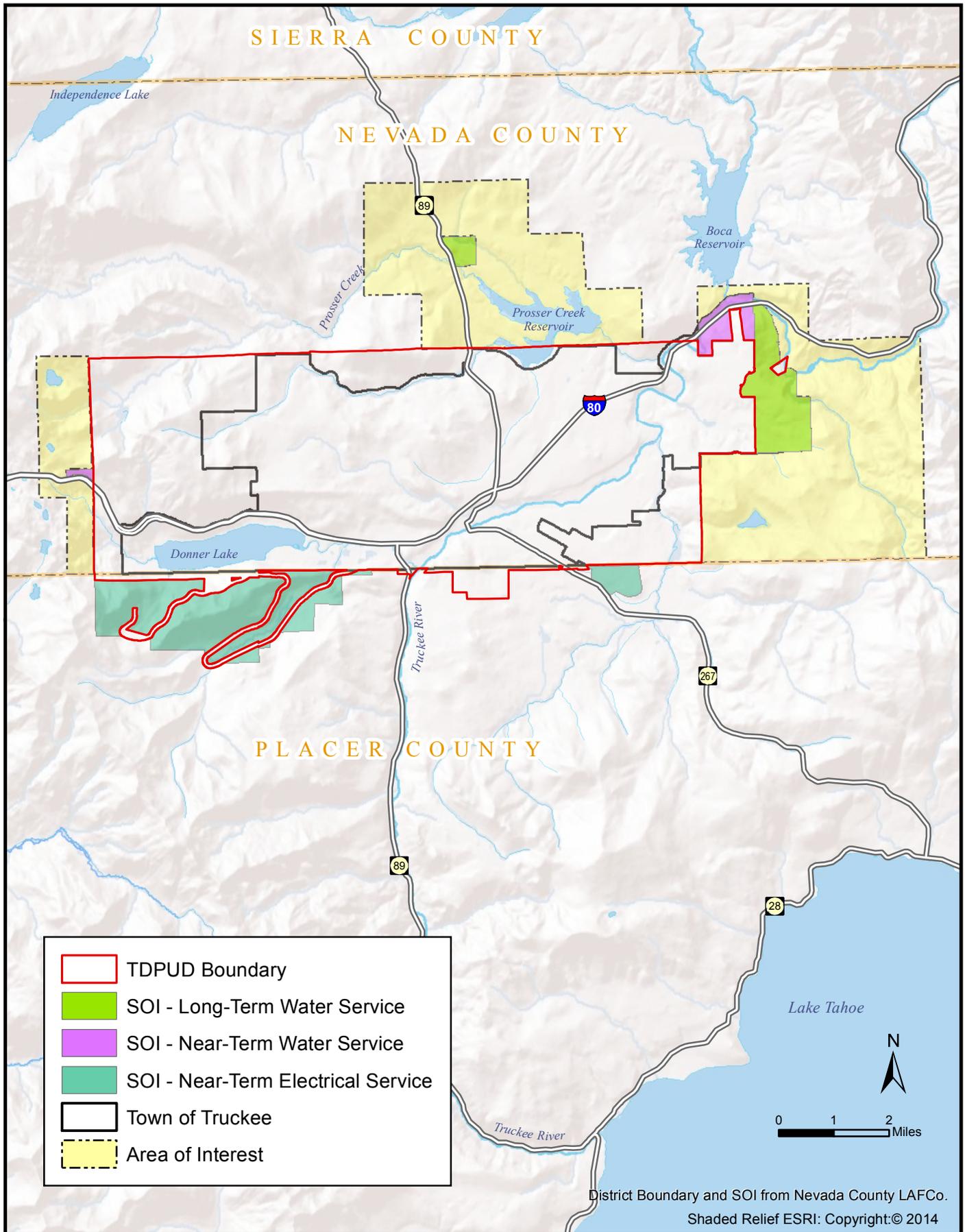


Figure 4 -1

TRUCKEE DONNER PUBLIC UTILITY DISTRICT

Sphere of Influence

Nevada LAFCo originally adopted a sphere of influence for the TDPUD in 1983. Nevada LAFCo updated the Nevada County portion of the sphere of influence for the PUD in 1998. In 2013, the Commission updated both the Nevada County and Placer County portions of the District's sphere of influence. The 2013 Update to the Sphere of Influence Plan for the Truckee Donner Public Utility District (Resolution No. 13-05) was approved September 2013, and identified near-term, long-term and Areas of Interest for TDPUD. A map of these designations can be found on

Figure 4-1 and acreage totals for the SOI is shown in Table 4-2. LAFCo policies identify these two sphere designations (near-term and long-term) for each of the services provided by the District. The designated SOI for the PUD's water service is slightly different from the established SOI for electric service. The paragraphs below focus only on the water service SOI. TDPUD's near term water service SOI has a planning horizon of roughly five years, to 2018, and contains approximately 449 acres as shown in purple on Figure 4-1. TDPUD's long term SOI for water service has a planning horizon of 20 years, to 2033, and contains a total of 1,395 acres, as shown in lime green on Figure 4-1.

A detailed description of the specific neighborhoods within the near-term and long-term SOI areas was provided as part of LAFCo's 2013 SOI study and is also listed below. Since the 2013 update to the TDPUD SOI, Placer LAFCo approved Resolution 2012-12 on December 18, 2014, which aligns the District boundary for several parcels encompassing 566.8 acres in Placer County. These parcels are listed below and in Figure 4-2 as Areas 2, 3, 4, and 5 in the Near-Term SOI. Resolution 2012-12 allowed for the District to meet all but one if its near-term SOI goals for water services.

Near-Term Sphere Water: Nevada LAFCo's Resolution No. 13-05 designated the following areas into the near-term SOI for water service as shown in Figure 4-2 and as listed below:

- Area 1 - Stampede Meadows: Includes properties within the northern-most quadrant of the Town of Truckee in the Stampede Meadows area, south of Interstate 80. Most of these parcels are developed for residential use.

Annexed Areas of the 2013 Near-Term Sphere - Water: Nevada LAFCo's Resolution No. 13-05 designated the following areas into the near-term SOI for water service as shown in Figure 4-2. However, these areas have since been annexed into the PUD's boundaries.

- Area 2 - Pine Cone Drive: This Area was annexed via Placer LAFCo's Resolution #2012-02 (approved in the year 2014). It includes residential properties in unincorporated Placer County along Pine Cone Drive. Most of these properties are connected to the District's water distribution system.
- Area 3 - Martis Road: The annexation of this area was approved by Placer LAFCo in 2014 by Resolution #2012-02. It includes several residentially developed properties in the unincorporated Placer County area adjacent to the northern border of the County along Martis Road. In 2012, the District applied to Placer LAFCo for annexation of these properties and it was approved.

- Area 4 - Northshore Boulevard: This Area was annexed via LAFCo's Resolution #2012-02. It includes several parcels developed for professional use in unincorporated Placer County adjacent to the northern border of the County at the Northshore Boulevard along State Route 89.
- Area 5 - West River Street: This Area was annexed via Placer LAFCo's Resolution #2012-02. It includes several residentially developed properties in unincorporated Placer County around the intersection of State Route 89 and West River Street.

Long-Term Sphere Water: Nevada LAFCo's Resolution No. 13-05 designated the following areas into the long-term SOI for water service as shown in Figure 4-2 and as listed below:

- Area 8 - Hobart Mills: Includes the Hobart Mills area in unincorporated Nevada County. This area, designated for Planned Development, is the site of a soil and bark processing operation.
- Area 9 - Town of Truckee: Includes several properties within the Town of Truckee Sphere of Influence designated by the Town's General Plan for Planned Residential Development.
- Area 10 - Canyon Springs: Includes several properties within the Town of Truckee and east of Glenshire Drive that have been considered for development formerly known as Tahoe Boca Estates and now called Canyon Springs. The Town of Truckee is processing an application but is waiting for the environmental impact report to be completed; the schedule for development and the need for services is uncertain.
- Area 11 - Town of Truckee: Includes one property within the Town of Truckee's Sphere of Influence designated for Planned Residential Development by the Town's General Plan.

Source: Nevada LAFCo, 2013

Areas of Interest

The September 2013 Update to the TDPUD SOI identified a portion of Nevada County as an "Area of Concern" for water service. Subsequently, LAFCo adopted Resolution No. 15-09 changing the designation of "Area of Concern" to "Area of Interest" for all geographic areas beyond the SOI for any local agency under the purview of Nevada LAFCo (Nevada LAFCo, 2015). Therefore, this document will use the term "Area of Interest" in place of the "Area of Concern" moving forward with the understanding that the area in question is not changing in size or scope, only the terminology.

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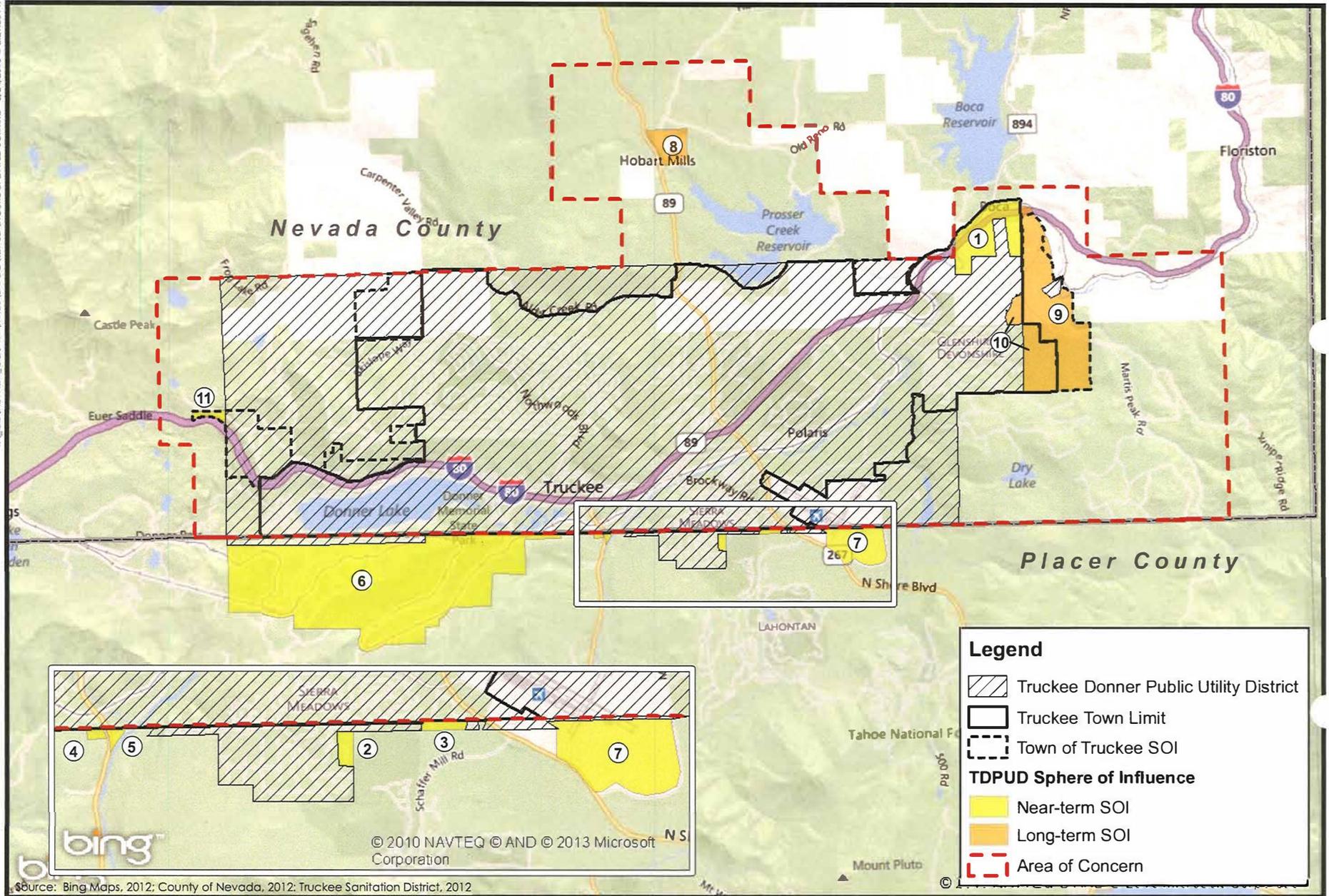


Figure 4-2

Resolution #13-05
TDPUD Sphere of Influence
PMC

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The Area of Interest makes up roughly 17,665 acres in Nevada County as shown in Figure 4-1. The Area of Interest designates areas located outside of the District boundaries and acknowledges that land use actions of one agency (such as Nevada County or Truckee) may have impact on another (such as TDPUD). There are no areas within Placer County that have been designated as an Area of Interest (Nevada LAFCo, Resolution #13-05).

Extra-territorial Services

The TDPUD does not currently provide water service to areas outside its existing boundary. However, in 2016, the PUD sold water on a temporary basis to the community of Floriston, as described in Appendix 7. Within the existing TDPUD boundary are several subdivisions currently served by wells including properties along Prosser Dam Road, in Prosser Lake View Estates, and portions of Alder Hill Road³. If these wells run out of water, the TDPUD would like to give residents the option to link with the District's water system.

4.2 GROWTH AND POPULATION

Existing Population

This section describes the existing population and future growth projections for the Truckee Donner Public Utility District, including factors that must be considered when planning for the provision of services within the District. An overview of the existing population characteristics for the Town of Truckee is shown in Appendix 1 and Nevada County is shown in Appendix 2. An economic forecast for Nevada County is shown in Appendix 3.

TDPUD covers an area of about 47.35 square miles, located mostly within Nevada County with a small portion in Placer County (TDPUD, 2012). Since the U.S. Census does not provide population information for special districts, detailed population statistics specifically for the District are not available. Therefore, the current population in the TDPUD is estimated based on available data. The vast majority of the District encompasses the Town of Truckee boundaries and includes developed areas in Donner Lake, and a small portion of unincorporated Placer County. Table 4-4 below shows the total existing population for Nevada County, Placer County, and the Town of Truckee from 2000 to 2018.

³ Residents in these areas are currently District electric customers.

Table 4-4: Historic & Existing Population			
Year	2000	2010	2019
Nevada County	92,033	98,764	98,904
Placer County	248,399	348,432	396,691
Town of Truckee	13,864	16,180	16,434

Data Source: U.S. Census Bureau, Census 2010, Summary File 1, 2015; CA DOF E-4, 2019.

Between 2000 and 2010, the population increased for all three population areas with the largest increase occurring in Placer County at roughly 100,000 additional residents. The Town of Truckee saw an increase of 2,316 residents over the ten-year period between 2000 and 2010. Between 2010 and 2018, the population of Placer County increased by 41,100 people, the population for Nevada County increased by 391 people, while the population for the Town of Truckee increased by 501 people. This equates to an average annual growth rate of 0.05 percent for Nevada County, 0.38 percent for the Town of Truckee, and 1.4 percent for the Placer County over that same period. The higher growth rate for Placer County can be attributed many factors including a higher number of population centers, such as Roseville, that have experienced rapid growth, and the ease of development in western parts of the County. Of Truckee’s 16,434 permanent residents, 10,130 of them were employed, with an overall employment labor rate of over 97 percent (CA EDD, 2019). Additional labor market data is provided in the Caltrans Economic Forecast in Appendix 3.

The TDPUD provides water services to over 17,000 customers using 13,000 connections as of 2019 (TDPUD, 2017b and 2019). As shown in Table 4-5 below, it is estimated that the population for the Truckee Donner Public Utility District as of 2018 is approximately 18,391 permanent residents. This number includes 16,434 permanent residents in Truckee and 1,957 persons in the unincorporated areas (U.S. Census, 2012-2016 and CA DOF E-4, 2019).

Table 4-5: Existing Population Truckee Donner Public Utility District			
	Total Permanent Population	Land Area (sq. miles)	Population per sq. mile
2019	18,391	46.5	396

Data Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates. CA DOF E-4, 2019

Assuming average growth for the Truckee Donner PUD over all three population areas based on growth occurring from 2010 to 2018, the past average population growth for TDPUD was 0.0034 percent per year. The average population concentration for TDPUD is roughly 396 persons per square mile.

There are an estimated 12,000 residential dwelling units and 700 commercial units in the District. The District currently estimates that approximately 60% of the dwelling units in the

service area of the District are maintained as second homes. Within the current service area, there are also approximately 1,900 undeveloped parcels within 100 feet of a water main, which are subject to a stand-by water availability charge (Brandis Tallman, 2015).

Projected Growth and Development

As a special district, the Truckee Donner Public Utility District does not have land-use authority. Therefore, population growth in the District is dependent upon the General Plan policies and land use designations of the land use agencies within its service area, including the Town of Truckee and the County of Nevada. Because the major portion of TDPUD's service area is located within the boundaries of the Town of Truckee, much of the growth for the TDPUD area will be defined by the Town's land use policies.

The Town of Truckee was incorporated as a municipality in 1993 and today encompasses approximately 33.7 square miles. The General Plan for Truckee, adopted in 2006, estimates population projection to the year 2025 based on residential and employment growth rates from 2000-2010 (Town of Truckee, 2006). A new Housing Element was adopted in January of 2015, and it also makes this same growth assumption. The Truckee General Plan is based upon four guiding principles:

- The General Plan will reduce sprawl by planning for projected growth, locating new development around existing developed areas, and by encouraging cluster development.
- The environment is fundamental to the economy and quality of life in Truckee and the General Plan will protect important open space lands and natural resources, will work to increase the amount of permanently protected open space, and will strive to enhance public access to open space lands and public resources.
- The General Plan will reduce the dependence on the automobile in Truckee by fostering compact development and providing for alternate modes of transportation.
- The General Plan will facilitate the provision of housing affordable to all sectors of the community. (Town of Truckee, 2006)

Projecting future population growth for a District is problematic due to unknown factors associated with the annexation rate and population data that does not match up with District boundaries. The Town of Truckee's General Plan anticipates total population at build-out to be 28,263 by 2025; which assumes an average annual growth rate of 2.912 percent per year, or a 43.7 percent increase from the base year of 2013 (Truckee, 2006). The projected growth described in the General Plan has not occurred on pace with expectations in recent years, partially due to slow recovery from the economic downturn in 2008. Due to the large inconsistency with the Town's General Plan growth expectations, this MSR calculates two

potential rates of growth, shown in Table 4-6 below. The slow growth rate relies upon the California Department of Finance (DOF) population projections. The fast rate of growth calculation relies upon data from the Truckee General Plan and makes an assumption about the relationship between growth in Truckee and Nevada County.

The California Department of Finance (DOF) produces population projections for the state and counties using industry standard methods of birth, death, and migration patterns. As of 2017, the Town of Truckee accounted for 16 percent of the total population for Nevada County (DOF, 2018). The DOF projected the population for Nevada County out to the year 2060; however, for purposes of this MSR, the population is projected to 2040. Table 4-6 below provides population growth estimates for the Town of Truckee Slow Growth Scenario and Fast Growth Scenario including population projections for Nevada County. The Town of Truckee Slow Growth Scenario is based on the growth rate determined by the DOF, while the Fast Growth Scenario is taken from the Town of Truckee 2015 Housing Element.

Table 4-6: Projected Population Growth							
	Estimates		Projections				
	2010	2015	2020	2025	2030	2035	2040
Nevada County	98,764	98,217	99,548	102,135	105,318	108,496	111,007
Truckee (Slow Growth)*	16,180	16,046	16,923	17,363	17,904	18,444	18,871
Truckee (Fast Growth)**	16,180	16,046	21,987	28,263	36,052	45,989	58,663
*Fast Growth estimate is based on data from the Town of Truckee's 2015 Housing Element to 2025 **Slow Growth estimate is based off data from the CA DOF, assuming that Truckee will be 16% of Nevada County's population through 2040.							

Sources: CA DOF, January 2018, Projections Table P-1; Town of Truckee, 2015

A majority of the housing and commercial units that TDPUD serves are located within the Town of Truckee, however, because the TDPUD boundaries include portions of Census Tracts 12.04 and 12.05 in Nevada County and 220.11 in Placer County, the Slow and Fast Growth Scenarios for the TDPUD are a combination of the Town of Truckee and the aforementioned census tracts in both Nevada and Placer Counties. It should be noted that Census Tract 220.11 encompasses a much larger area than that included in the TDPUD boundaries. This MSR's projected population growth for the Truckee Donner Public Utility District, broken into the Slow and Fast Growth Scenarios, can be seen in Table 4-7 below.

Table 4-7: Projected Population Growth (2016-2040) in TDPUD Boundaries						
	2016	2020	2025	2030	2035	2040
TDPUD (Slow Growth)	18,200	18,391	18,737	19,319	19,900	20,359
TDPUD (Fast Growth)	18,200	25,109	32,227	41,172	52,520	66,994

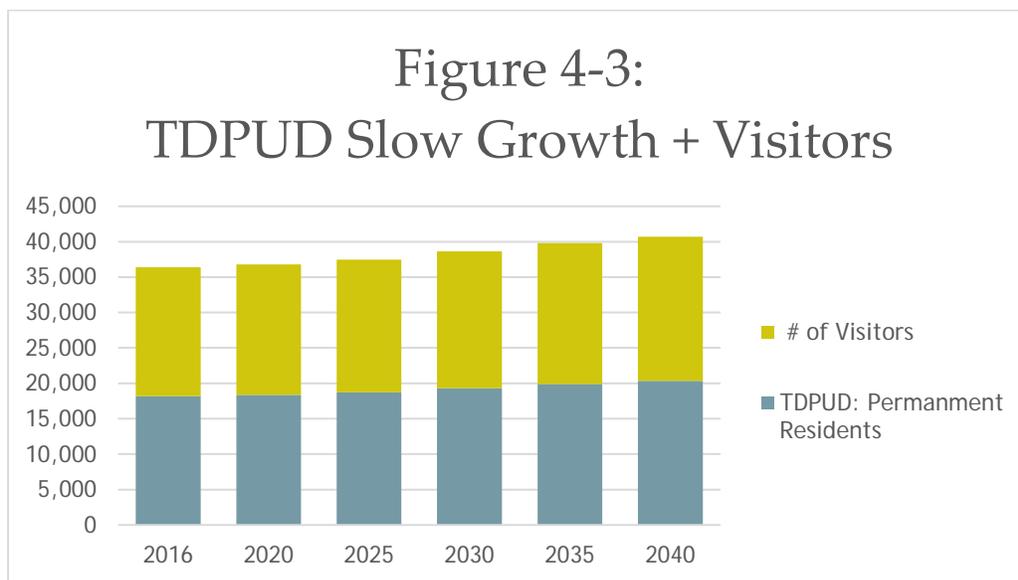
*Fast Growth estimate is based on data from Truckee's 2015 Housing Element to 2025 and assumes Truckee will be 27% of Nevada County's projected population through 2040 using the 2025 population for Truckee and Nevada County as a baseline.

**Slow Growth estimate is based off data from the CA DOF, assuming that Truckee will be 16% of Nevada County's population through 2040.

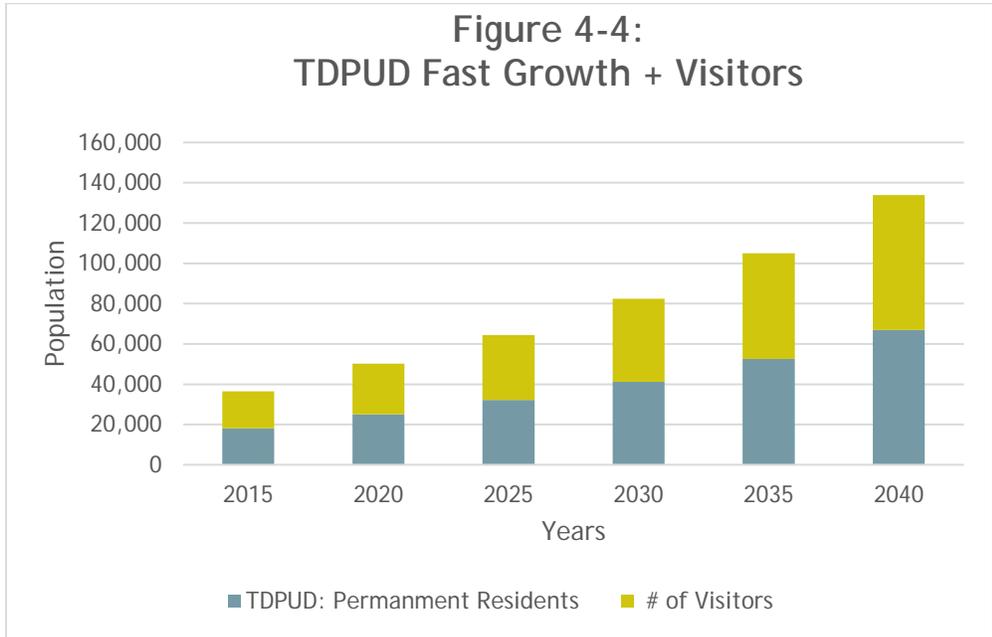
Sources: CA DOF, 2018; Town of Truckee, 2015; U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

The Slow Growth scenario estimates an increase of roughly 1,968 residents over the 20-year period between 2020 to 2040 based on the DOF growth rates for Nevada County as shown in Figure 4-3, below. In contrast, the Fast Growth scenario is based on the Town of Truckee's General Plan which assumes a population of 28,263 by 2025, and this assumption remained as the population projection estimate in the most recent Housing Element Update in January 2015 (Town of Truckee, 2015).

In addition to population growth factors, approximately half of all residential homes within the Town of Truckee are used as second homes or as rentals during the summer and winter seasons (TTCF, 2016). This variability in population is important for the Truckee Donner Public Utility District to consider as the District aims to ensure infrastructure is able to accommodate visitors during peak seasons. According to the Truckee 2017 Annual Report, 53.8 percent of homes in Truckee were classified as 'vacant' in 2017 with no change from the previous year. In this case "vacant" indicates seasonal (not permanent) occupation. With roughly half of the homes vacant, visitor population can be assumed to be roughly proportionate to the permanent population, assuming the vacancy rate remains constant. Projection for visitors is shown in Figures 4-4 & 4-5 below based on the same population growth rates for both scenarios and a consistent vacancy rate of roughly 50 percent in 2017 (Truckee, 2018).



The Slow Growth Scenario for the TDPUD assumes a much slower growth rate than that of the Fast Growth Scenario based on the Town of Truckee projections. The Slow Growth Scenario anticipates the potential population for TDPUD to be 20,359 full-time residents by 2040 plus an additional 20,359 visitors for a total of 40,718 people. It can be assumed that, even if the population were to increase to this size by the year 2040 with such a high number of visitors, TDPUD would add and update infrastructure periodically and in conjunction with housing builds, anticipating full-time use.



The Fast Growth Scenario for the TDPUD includes the Truckee General Plan projected buildout of 19,901 residential units with 10,746 units occupied year-round and 9,155 seasonal or vacation units in 2025. Truckee’s total projected buildout population is 28,263 permanent residents by the year 2025 (Truckee, 2014). After the year 2025, it is possible that Truckee’s rate of growth may slow significantly because it previously reached “build-out”. In this post-2025 situation, there could be some infill development and other new development both in Truckee and in the unincorporated areas. However, since Truckee’s General Plan and Housing Element do not include population projections past the year 2025, it is difficult to predict where future growth may occur within the Town boundaries. In order to provide a contrast to the “slow growth scenario” showed in Figure 4-3, the MSR Fast Growth Scenario makes a general assumption that Truckee will be 27% of Nevada County’s projected population through 2040. Under this assumption, the Fast Growth Scenario anticipates a total of 66,994 permanent residents plus 66,994 visitors in TDPUD during peak seasons by 2040. This totals to 133,988 people requiring municipal water services during peak season in the year 2040.

The difference between the Slow and Fast Growth scenarios is 93,270 people by the year 2040, including both full-time residents and peak season visitors. Inclusion of the Fast Growth Scenario in this MSR does not imply that LAFCo agrees with or approves this scenario. Rather,

it only means that the authors of this MSR utilized data from the Truckee General Plan and Housing Element for modeling purposes. For planning purposes, this MSR assumes the slow-growth scenario is more in line with the current and future population growth. It should also be noted that the TDPUD projects that the permanent population of the District at buildout will be approximately 22,000 (Brandis Tallman, 2015, page 26).

Present and planned land uses

Existing land use

The TDPUD does not have land-use authority. Land use is described herein because it relates directly to projected population growth of the District. Land use decisions are one of the most important legal authorities available to cities and counties. Because the existing TDPUD boundary and SOI include the Town of Truckee and portions of Nevada and Placer Counties, existing land uses for all three jurisdictions are discussed in the following paragraphs.

Nevada County

Nevada County's total land area is 958 square miles with 70 percent privately owned and 30 percent public lands. The incorporated areas of Grass Valley, Nevada City, and Truckee make up 33 percent of the County's population, with the remainder living in outlying unincorporated areas. The County is made up of residential, commercial, industrial, agricultural, and public land uses. Incorporated areas are focal points for development (Nevada County, 2014).

Town of Truckee

The Town of Truckee is an incorporated area located within Nevada County, encompassing roughly 33 square miles spanning from Donner Lake to the south, to rural areas ending around Interstate 80 exit 194 to the north (Refer to Figure 4-1). The Town functions as the regional center for transportation, business, commerce, and tourism as it is the major urban area in the Sierra Nevada mountains, north of Lake Tahoe (Truckee, 1997). The Town's established historic downtown at the confluence of the Union Pacific Railroad, the Truckee River, and Donner Pass Road provides for a mix of commercial, industrial, public, residential, and mixed use commercial and residential uses (Truckee, 2006). The remaining portion of the Town's existing land use includes residential, transportation corridors (streets, highway, trail, and train) and open space/resource conservation. Neighborhoods located within the Town and served by the TDPUD include the Armstrong and Biltz Tracts, Glenshire, Tahoe Donner, Meadow Park, Gateway, Gray's Crossing, Olympic Heights, Old Greenwood, Prosser Heights, Prosser Lakeview, Donner Lake and Hirschdale (Refer to Figure 4-1).

Placer County

Very little of the TDPUD is located within Placer County with no intention to expand into the County at this time. Placer County consists of approximately 1,500 square miles of diverse geography between Sacramento and the Nevada state border. The eastern portion of the County contains resort communities and ski areas around Lake Tahoe. Tourism and recreation are

dominant industries in the region, providing growth in the unincorporated communities of Tahoe City, Tahoe Vista, Carnelian Bay, Homewood, Kings Beach, Tahoma, Emigrant Gap, Soda Springs, and Squaw Valley (Placer County, 1994).

General Plan, Zoning, and Policies

Nevada County

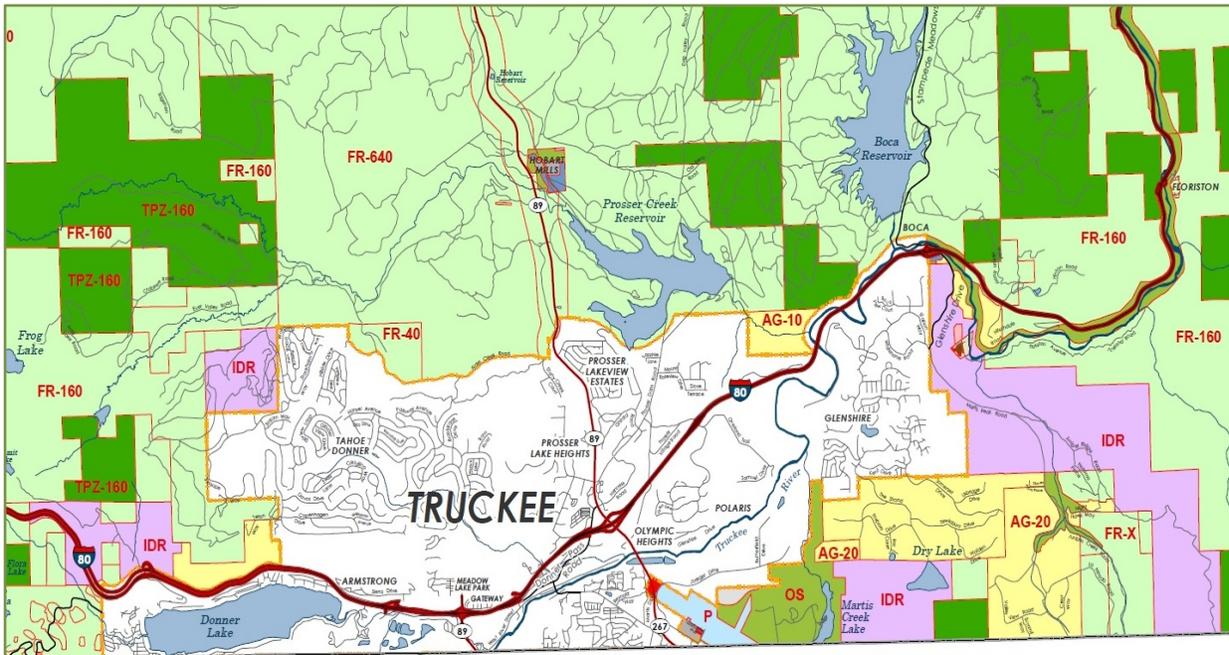
The Nevada County General Plan was approved by the Board of Supervisors in 1996. The document has been subsequently amended in 2008 (Safety Element), 2010 (Circulation & Housing Elements), and 2014 (Land Use, Safety, Noise, and Housing Elements). The General Plan includes twenty different chapters, with seven of them being those required by California Government Code Section §65302, and four additional elective elements. Four central themes for the development of Nevada County include:

1. Fostering a rural quality of life;
2. Sustaining a quality environment;
3. Development of a strong diversified, sustainable local economy; and
4. Planned land use patterns will determine the level of public services appropriate to the character, economy, and environment of each region.

The General Plan Land Use Element divides the County into Community and Rural Regions. Within Rural Regions, only growth that is amenable to the types and densities of development consistent with open, rural lifestyle, pastoral character, and natural setting are encouraged. In contrast, Community Regions allow for higher residential densities and broader land uses including commercial, industrial, cultural, public, and recreational subject to the availability of public sewer and water as well as other urban services and facilities. It is important to note that 55.54 percent of the existing land use within the County is designated as forest land, owned by the Bureau of Land Management, the Federal Government, and wildlife and recreation areas (Nevada County, 2008).

The Nevada County Zoning Map designates the area located to the west side of the Town of Truckee boundary as general agriculture (shown in yellow), interim development reserve (shown in purple) and Forest with a 160-acre minimum parcel size (shown in green) as provided on Figure 4-5, next page. The areas to the east include large areas designated as general agriculture (shown in yellow) and interim development reserve (shown in purple), which is currently undeveloped. The areas to the north are primarily designated as Forest (shown in green in Figure 4-5). Also included to the southeast is the Truckee Tahoe Airport, designated as public land with adjacent community commercial, neighborhood commercial, light industrial, and interim development reserve as identified in the Eastern County Zoning Districts map (Nevada County, 2015). The interim development reserve district designates the potential for development of the area as a Planned Development and Special Development Area in the General Plan. It functions as a temporary holding zone and reserves the development potential until a Zoning Map and comprehensive Master Plan and/or Specific Plan for the area has been adopted consistent with Nevada County General Plan policies (Nevada County, 2015).

Figure 4-5: Nevada County Zoning Map



Eastern Nevada County Zoning Districts

 General Agriculture	 Incorporated Areas	 Medium Density Residential
 Business Park	 Interim Development Reserve	 High Density Residential
 Neighborhood Commercial	 Light Industrial	 Residential Agricultural
 Community Commercial	 Open Space	 Recreation
 Highway Commercial	 Public	 Timberland Production Zone
 Forest	 Single Family Residential	

Town of Truckee

The 2025 General Plan for the Town of Truckee was adopted in November of 2006 and updated in 2009. The Housing Element of the General Plan updated in 2015. The 2006 update to the General Plan was the first since the Town's incorporation in 1993 and subsequent adoption of the first General Plan in 1996. The 2025 General Plan contains eight elements, with six of the elements covering the seven mandatory elements required under California Government Code §65302. The two additional elements cover Community Character and Economic Development to meet local needs and interests. The Town of Truckee currently uses traditional zoning code methods to divide areas of the municipality into primary land use categories, guided by land uses identified in the General Plan (Truckee, 2006).

The General Plan assumes roughly 54 percent of the housing stock for the Town will be occupied by permanent residents while the remaining 46 percent will be second homes or other vacant properties. The projected buildout for the Town includes 19,901 residential units with 10,746 year-round units and 9,155 seasonal or vacation units by 2025 coming to a total projected buildout population of 28,263 persons. Non-residential development is expected to reach 5,000,000 square feet by 2025 including retail, general commercial, office, industrial, warehouse, religious, and lodging. The Land Use Element is generally divided into neighborhood districts with specific goals and policies for each, including developed and undeveloped areas.

Goals for the General Plan as it relates to land uses include managing growth to maintain the small-town character of Truckee, reduce environmental impacts and minimize sprawl by creating efficient land use patterns, and coordinating land development with the provision of services and infrastructure available. Policies for land use include approving zoning and development permits only when adequate services are available. In addition, Policy A.82 requires that "Planned urban development outside of the Town should be considered the most appropriate for development and annexation" with the first being "areas within the boundaries of established water and sewer providers and where provisions for services to the properties have been made" (Truckee, 2006).

Placer County

The Placer County General Plan was updated in May 2013 and is broken into the Countywide General Plan and a set of more detailed community plans covering specific areas of the unincorporated county. The General Plan is made up of ten sections, including those required by California Government Code Section §65302. The Land Use Element of the General Plan uses traditional land use designation methods to divide the County into twelve broad land use categories: 1) Agriculture; 2) Timberland; 3) Greenbelt/Open Space; 4) Rural Residential; 5) City; 6) Commercial/Professional; 7) Industrial; 8) Mixed-Use; 9) Public/Quasi-Public; 10) Specific Plan/Special Study Area; 11) Urban/Suburban Residential; and 12) Basin Plan. In addition, land use intensity and buffer zone designations are utilized to minimize conflicts between incompatible land uses (Placer County, 2003).

Regional Transportation Plans & Sustainable Community Strategies

California Senate Bill (SB) 215 requires LAFCo agencies to consider regional transportation plans and sustainable community strategies before making boundary decisions. Because the Truckee Public Utility District boundary and SOI is located within the Town of Truckee, Nevada County, Placer County, and the greater Lake Tahoe Region, many different transportation plans and sustainable community strategies need to be considered, specifically the Regional Transportation Plan for the Lake Tahoe area and the Regional Transportation Plan for Nevada County.

The Tahoe Regional Planning Agency (TRPA), the federally designated Metropolitan Planning Organization (MPO) for the Lake Tahoe Region, plans and funds transportation and transit improvements to support the attainment of regional environmental thresholds. The Regional Transportation Plan: Linking Tahoe was completed in April of 2017, planning for horizon year 2017-2040. This plan includes Truckee within the Tahoe Region System and focuses on prioritizing bicycling, walking, and transit to service residents and visitors, promoting sustainable community strategies. The region is unique with high levels of visitation causing the average daily population of the area to be four times the permanent resident population fluctuating by season and day of the week. The main goal of the plan is for more people to arrive without a car and, once they are in the region, to have other means of travel readily available. It is envisioned for the Tahoe Region System to be seamless and interconnected with more and better travel options between recreation sites and community centers including Truckee, Tahoe City, South Lake Tahoe, Incline Village, and others. The Truckee area is envisioned to develop bus, rail, biking, auto and electric vehicle infrastructure to support the Tahoe Region System. Policies associated with transportation and sustainable communities in the TDPUD area include improving existing transit systems through increased frequency, expanded service areas, and extended service hours; constructing, upgrading, and maintaining pedestrian and bicycle facilities consistent with the Active Transportation Plan; and establish the Tahoe-Truckee Region as a plug-in electric vehicle (PEV) destination. Long term goals include visitors and commuters taking trains from San Francisco to Reno with stops in Truckee that connect by bus to lake Tahoe with frequent routes that run every 15 minutes (TRPA, 2017).

The Nevada County Transportation Commission (NCTC) is a Regional Transportation Planning Agency for Nevada County, coordinating transportation planning for Grass Valley, Nevada City, Nevada County, and the Town of Truckee. The NCTC adopted the Regional Transportation Plan (NCTC-RTP) in January of 2018. The NCTC-RTP update identifies the following goals for Nevada County: 1) Provide for the safe and efficient movement of all people, goods, and services, on the roadway network; 2) Create and maintain a comprehensive, multi-modal transportation system to serve the needs of the County; 3) Reduce adverse impacts on the natural, social, cultural, and historical environment and quality of life; and 4) Develop an economically sustainable transportation system (Nevada County, 2018). The Nevada County Regional Transportation Plan does not fully cover Sustainable Community Strategies since it is not a Metropolitan Planning Organization and is therefore not required by state law.

Future Development Potential

Nevada County

Roughly 314 square miles of Nevada County's 943 square miles are managed by the Tahoe National Forest, the Bureau of Land Management, and the Spenceville Wildlife and Recreation Areas. Most new development occurs within local cities, towns, and communities. Land development within the eastern portion of Nevada County, including the Town of Truckee and surrounding areas, tends to be more consolidated than the western portion (Nevada County, 2016).

The General Plan Land Use Maps for Nevada County identifies much of the land within the Truckee Public Utility District Areas of Interest designation to be forest land (Nevada County, 2010). Under the Nevada County Zoning Code, the FR (Forest) District "provides areas for protection, production and management of timber, timber support uses, including but not limited to equipment storage and temporary offices low intensity recreational uses, and open space" (Nevada County, 2017). Additionally, within the PUD's Area of Interest includes the neighborhoods of Hobart Mills, Klondike Flat, and Tahoe Timber Trails. These neighborhoods have the potential for additional growth and are currently served by wells. Klondike Flats consist of 21 residential parcels, and Tahoe Timber Trails is a private camping community with 553 campsites. Hobart Mills is designated as a Planned Development along Highway 89, north of Truckee, and is currently developed as an industrial site. The Town of Truckee's Sphere of Influence Plan, updated in 2010, identifies one area to the south-east of Truckee designated for Planned Development within the TDPUD Area of Interest which contains 862 acres and is planned for 189 clustered residences (Nevada LAFCo, 2010). The west side of the TDPUD's Area of Interest is designated as FR-160 or TPZ-160 within the Nevada County General Plan. In both areas, little to no development is likely to occur (Nevada County, 2017).

Most areas within the TDPUD Near-Term and Long-Term SOI are also within the within the Town of Truckee's SOI and are currently unincorporated and therefore under the jurisdiction of the Nevada County General Plan. The County General Plan designates these areas as a mixture of open space, forest land, agriculture, planned development, and residential uses. Parcels which are currently developed are currently served by wells. Other parcels that are currently vacant do not require water service at present. As areas within the SOI develop in the future, it is TDPUD's aim to provide water services to these areas. Specifically, much of the Long-Term SOI includes areas designated as Planned Development in the Truckee SOI. This area is made up of 862 acres and is planned for up to 275 clustered residences (Nevada LAFCo, 2010). Also, in this area is Juniper Hills, which includes 163 residential parcels, many currently undeveloped (Nevada County, 2017).

Town of Truckee

A majority of the potential future development that may affect the TDPUD near-term, long-term, and Areas of Interest SOI would occur in the Town of Truckee. Future development in the Town of Truckee directly impacts the Truckee Donner Public Utility District as the Town of Truckee General Plan Policy P4.3 requires that the Town “approve rezoning and development permits only when adequate services are available, or when a program to provide services has been approved by the applicable District and the Town of Truckee.” The Town’s General Plan policy includes provisions to work with adjacent jurisdictions to coordinate the timely annexation of property for development purposes. The provision of water and sewer services are limiting factors for development (Truckee, 2006). The most recent SOI update for the Town occurred in 2010, identifying areas to the east and west of the town for expansion, generally coinciding with the Truckee Public Utility District’s Near-Term and Long-Term Sphere of Influence approved in 2013 (Nevada County, 2010).

The Town of Truckee 2017 Annual Report provides a breakdown of major residential and non-residential projects in Truckee that were completed, under construction, approved or under consideration in 2017. Table 4-8 below provides a breakdown in residential projects by name and type:

Table 4-8: Town of Truckee Residential Projects Built, Under Construction & Approved in 2016		
Residential Project	Multi-Family Residential	Single Family Residential
Residential Projects Built		
Deer Trail Townhomes	24	--
Gamet Townhomes	--	3
Residential Projects Under Construction		
Coyote Run II	2	5
Boulders Condos Phase IV	36	7
Palisades Townhomes	4	--
Spring Creek	30	37
Stoneridge	73	--
Winter Creek	20	147
Quality Automotive	2	--
Residential Projects Approved		
Gray’s Crossing Attached Units	98	--
Gray’s Crossing Cottages	--	89
Old Greenwood - the Villas	--	8
Old Greenwood - Sutter’s Trail	--	16
Old Greenwood - Carson Range	--	24

Residential Project	Multi-Family Residential	Single Family Residential
Old Greenwood - Miner's Trail	--	8
Coldstream Specific Plan	48	260
Coburn Crossing Apartments	138	--
Railyard Artist Lofts	90	--
Crestwood Mixed Use Building	4	--
Palisades Multi-Family	4	--
Pioneer East	8	--
Waltman	2	--
Fastlane Employee Housing	1	--
Subtotal	584	604
TOTAL UNITS	1,188	
<i>Source: Town of Truckee, 2018</i>		

In total, 1,188 residential units are under construction or approved for development within the Town of Truckee (Truckee, 2018). Other major development projects currently in progress in the Town include: 1) Triumph Development Hotel and Residential Project, a 71,090 square foot three-story hotel with 114 rooms and five three-story apartment buildings with a total of 138 residential units; 2) Truckee Springs Master Plan to develop either 40 single-family residential units, 80 multi-family residential units, or 120 hotel/lodging units; and 3) The Joerger Ranch Specific Plan to designate 21 acres of Manufacturing/Industrial and Business Innovation, 4 acres of Multi-family Residential, 21 acres of Open Space, and 20 acres of General Commercial. Another project currently in progress is the Canyon Springs subdivision, which proposes to develop 177 single family parcels and 26 multi-family or low-income single-family parcels along the northeastern side of the Town of Truckee within the Town boundary and Truckee Donner Public Utility District existing service area. The project, which is located east of Glenshire, will involve annexation to the Truckee Donner Public Utility District for water service, which will require LAFCo action. At this time, it is unclear when the annexation application will be presented and when the proposal will be ready for Commission review (Nevada LAFCo, 2017).

In addition to residential projects, the Town of Truckee 2017 Annual Report provides a breakdown of major non-residential projects in Truckee that were completed, under construction, approved or under consideration in 2016. Table 4-9, below, provides a breakdown in non-residential projects by name and type:

Table 4-9: Town of Truckee Non-Residential Projects Built, Under Construction & Approved in 2016

Non-Residential Project	Square Footage	Demo
Non-Residential Projects Built		
TDRPD Aquatic Center	25,840	--
Pioneer Commerce Center Building K1	5,062	--
TTUSD Maintenance and Ops Building	13,284	(17,640)
Non-Residential Projects Under Construction		
Pioneer East Building L	11,618	--
Quality Automotive	2,934	--
Kelly Brothers Paint Building w/Amend.	4,725	--
Downtown 76	1,766	(1,200.0)
Non-Residential Projects Approved		
Pioneer East Remainder	50,275	--
Waltman	18,144	--
Coldstream	30,000	--
Railyard Grocery Store	34,483	--
Coburn Crossing Hotel	71,090	--
Crestwood Mixed Use Development	8,778	--
Artist Lofts	3,855	--
Soaring Ranch (Raley's)	123,704	--
Subtotal	405,558	18,840
TOTAL UNITS	386,718 sq. ft.	
Source: Town of Truckee, 2018		

In total, 386,718 square feet of non-residential space is either under construction or approved for development within the Town of Truckee (Truckee, 2018). Other major development projects currently in progress in the Town include: 1) the High-Altitude Fitness gym facility proposing a two-story, 27,500 sq. ft. building for rope climbing, bouldering, and fitness studio activities; 2) the Raley's development including 59,000 sq. ft. of commercial, 65,000 square feet of retail, and 80 apartments; 3) The Capitol Avenue Grocery development including 17,568 sq. ft. of retail and two residential apartments; and 4) the Nugget market with 35,000 sq. ft. retail space and a 7,483 sq. ft. patio/plaza area (Truckee, 2018).

The Town of Truckee is embarking on a multi-year planning effort to update its 2025 General Plan with a 2040 General Plan. Concurrently, the Town's Downtown Specific Plan will also be updated. To support the initiation of the General Plan Update, the Council appointed a General Plan Advisory Committee to support public participation. The General Plan update may result in changes to the type and quantity of new development allowed in Truckee in future years and therefore may affect water demand. It is recommended that any proposed changes to future water demand be closely coordinated between the Town of Truckee and TDPUD.

Placer County

Although the Placer County Martis Valley Community Plan (2003) is not expected to impact TDPUD or require services from the TDPUD, it is described herein to provide geographical context since it is near the TDPUD boundary. The vast majority of the land in the Community Plan area is not suitable for development due to sensitive natural resources. In addition, a large percentage of dwelling units are utilized for seasonal or vacation homes and this trend is anticipated to continue. The Community Plan calls for an estimated holding capacity of 8,600+/- dwelling units at build out of the Plan with a large percentage of homes used for vacation or seasonal purposes (Placer County, 2003). The Specific Plan anticipates that the Northstar Community Services District will provide municipal water services to the project. Additionally, Schaffer's Mill Phase 3A subdivision was approved by Placer County in 2004 and has been under construction over the past several years. Schaffer's Mill Phase 3A subdivision is located in the Martis Valley off Schaffer Mill Road, approximately one mile from Highway 267. Phase 3A creates 50 single-family residential lots and these new homes will receive water and other public services from the Northstar Community Services District.

4.3 DISADVANTAGED UNINCORPORATED COMMUNITIES

Senate Bill (SB) 244, which became effective in January 2012, requires LAFCo to consider the presence of any Disadvantaged Unincorporated Communities (DUCs) when preparing an MSR that addresses agencies that provide water, municipal water or structural fire protection services. A DUC is an unincorporated geographic area with 12 or more registered voters with a median household income of 80 percent or less of the statewide median household income. In 2014, the statewide annual median household income (MHI) in California⁴ was \$61,489 and 80 percent of this equals \$49,191. This state legislation is intended to ensure that the needs of these unincorporated communities are met when considering service extensions and/or annexations, in particular, water, municipal water, and structural fire protection services. Since the Truckee Public Utility District is located within the Nevada County, Placer County, and Town of Truckee, all three jurisdictions will be discussed.

Nevada County Disadvantaged Unincorporated Communities

Nevada LAFCo has adopted specific policies regarding DUCs which recognizes any of the DUCs that have been designated by the County of Nevada, the Cities of Grass Valley and Nevada City and the Town of Truckee. The County has identified five DUCs in the unincorporated portion of the County: Penn Valley, Rough and Ready, North San Juan, Washington, and Soda Springs.

⁴ Median income data from: <https://www.census.gov/quickfacts/table/INC110214/06,2412150,00>

Additionally, the City of Grass Valley has identified the Alta Hill area as a DUC. Soda Springs DUC is located roughly 3 miles west of TDPUD's Area of Interest and is within the area served by the Donner Summit PUD as described in Chapter 5.

Placer County Unincorporated Communities

SB 244 requires identification of disadvantaged unincorporated communities that lie within a district's SOI or proposed SOI. No areas of the TDPUD SOI lie within Placer County. According to the Placer County General Plan updated in 2013, no disadvantaged communities were identified, thus no policies were included related to DUCs.

Town of Truckee Disadvantaged Community Requirements

LAFCo is not required to study the status of disadvantaged neighborhoods that are located within incorporated cities that provide water, wastewater, and structural fire protection services. However, SB 244 required cities to update their land use and housing elements to include an analysis of the water, wastewater, and structural fire protection services in the area along with financing options to help encourage investment in disadvantaged areas, should it be needed. As part of this effort, the bill required cities to identify and describe services within any disadvantaged communities within their sphere of influence (SOI). A disadvantaged community is characterized as having a median household income of 80 percent or less of the statewide median household income. The MHI threshold for the statewide median household income for 2012-2016 was \$63,783.

The 2010 U.S. Census (as updated in 2014) found that the median household income for the Town of Truckee was \$72,159 (US Census, 2014). This is significantly higher than the DUC threshold MHI. According to the California Department of Water Resources on-line mapping tool⁵, the central and southwest side the Town of Truckee can be considered disadvantaged as shown in Figure 4-6, below. The map depicts Disadvantaged Communities by Block Groups. This layer is derived from data of the US Census ACS 2010-2016 showing census block groups identified as disadvantaged communities (less than 80% of the State's median household income) or severely disadvantaged communities (less than 60% of the State's median household income). The Block Group is a subsection of Tracts 12.06 and 12.04.

Block Group 12.06,2 has a population of 1,511 individuals, 555 households, and a median income of \$46,058.00. Within this Block Group, 185 of housing units are vacant for seasonal, recreational, or occasional use with none renter occupied. The remaining 370 households are owner occupied. Of the total households, 315 have had income in below the MHI threshold as of 2014, a little over 56 percent of the block group (US Census, 2014). Since Block Group 12.06,2 is located in the Town of Truckee it is eligible to receive public services including water, sewer, and fire protection. No public health and safety issues have been identified.

⁵ DWR mapping tool is available at: <https://gis.water.ca.gov/app/dacs/>

Figure 4-6: Disadvantaged Community by Block Groups, Town of Truckee



4.4: MUNICIPAL WATER SERVICES

Water Service Overview

This Chapter describes the TDPUD’s water supply, water quality, water demand, and water infrastructure. TDPUD provides water and electric service to customers within the Truckee and Donner Lake areas, with the water and electric systems each maintained and operated separately. This MSR focuses solely on the water system. TDPUD is the sole public provider of water service within its boundaries⁶; although there may be individual privately-operated wells for domestic use present. TDPUD’s boundaries includes customers in the downtown Truckee area, Armstrong and Biltz Tracts, Meadow Park, Gateway, Prosser Heights, Prosser Lakeview, Glenshire, Hirschdale Tahoe Donner, and Donner Lake as described in section 4-1 of this MSR. The District is currently about 76% developed and land-use within the District’s service area is described in Section 4.2 of this MSR.

TDPUD operates two water systems in the Truckee area:

1. Hirschdale System (PWS CA 2910010), and

⁶ In past years TDPUD operated the Lahontan water system for the Placer County Water Agency Zone 4 serving the communities of Lahontan, Schaffer’s Mill, Hopkins Ranch, and Martis Camp (Nevada LAFCO, 2013). However, since then, Placer LAFCO allowed the Northstar Community Services District to assume responsibility for this area as described in their adopted Resolution No. 2014-03 (Placer LAFCO, 2014).

2. Truckee System (PWS CA 2910003)

These two systems are not interconnected and are physically separated by geographic and topographic distance. The Hirschdale System serves 24 accounts (TDPUD, June 2016 pg. 1-3). Physically connecting the Truckee-Main System and the Hirschdale System is not financially feasible at this time, due to current construction costs. TDPUD anticipates that future development in the area may provide more feasible options (personal communication, S. Kuhlemeir, 6June2019).

The Truckee System provides treated water to 13,000 connections (TDPUD, 2017b and 2019). It is estimated that approximately 12,300 connections are residential and 700 are commercial. The District's Truckee System includes 46 pressure zones, 25 pumping stations, 33 active storage tanks, and 14 active wells, of which 11 wells provide potable water (TDPUD, June2016 pg. 1-3 and 1-4 and see TDPUD 2017b). Additionally, the water system has 216 miles of pipeline and one storage reservoir which is not active (LAFCO SOI, 2013b).

The District's primary water supply source groundwater accessed via wells, although natural springs and surface water have been used as a water supply in the past (TDPUD, 2016). TDPUD's water systems are regulated and permitted by the California State Water Resources Control Board - Division of Drinking Water (DDW) for water quality and delivery. TDPUD obtains the following permits from local, state, and federal agencies as part of the District's responsibility to manage its water system:

- (1.) **California State Water Resources Control Board**
 - (a.) Truckee Donner PUD- Main System Permit - CA2910003 (Reviewed and inspected upon SWRCB request)
 - (b.) Truckee Donner PUD - Main System Classification
 1. Distribution - D4
 2. Treatment - T2
 - (c.) Truckee Donner PUD - Hirschdale System Permit - CA 2910010 (Reviewed and inspected upon SWRCB request)
 - (d.) Water Treatment Operator Certification (individual operator certifications renewed every 3 years)
 - (e.) Water Distribution Operator Certification (Individual operator certifications renewed every 3 years)
 - (f.) Truckee Donner PUD Main System - Statewide NPDES Permit for Drinking Water Systems Discharges (renewed annually)
 - (g.) Truckee Donner PUD Hirschdale System - Statewide NPDES Permit for Drinking Water Systems Discharges (renewed annually)
- (2.) **Nevada County Department of Environmental Health -**
 - (a.) Hazardous materials (renewed annually)
- (3.) **Placer County -**
 - (a.) Encroachment permit (new permit for each project)
 - (b.) Permit to Operate – Emergency Generator (renewed annually)

- (4.) Northern Sierra Air Quality Management District - Permit to Operate Emergency Generators (renewed annually)
- (5.) California Department of Water Resources (DWR)
 - (a.) California State Groundwater Elevation Monitoring
- (6.) Town of Truckee -
 - (a.) Blanket encroachment permit (renewed upon request or amendment)

Water Supply Planning

Protecting water quality and maintaining an adequate water supply are critical for the future of the Truckee and Martis Valley region. Given this importance, the TDPUD and other regional and statewide agencies prepare a range of water resource management plans as described in the following paragraphs.

Truckee Water System 2015 Urban Water Management Plan. Urban Water Management Plans (UWMPs) are prepared by California's urban water suppliers to support their long-term resource planning and ensure that adequate water supplies are available to meet existing and future water demands. The Urban Water Management Planning Act (CWC §10610 - 10656 supplemented by CWC §10608 et seq) specifies the requirements for UWMPs. The Truckee Donner PUD adopted their 2015 UWMP on June 1, 2016. This UWMP describes TDPUD's existing water facilities, system water use, baselines, water system supplies, contingency plan, and water demand management measures. Additionally, the UWMP contains a listing of the studies that have been prepared on the geology of the MVGB since 1975. The 302-page UWMP written by Neil Kaufman, Water System Engineer, is the primary source of information for this MSR and contains details regarding TDPUD and its water supply and operations.

Figure 4-7: Martis Valley Groundwater Basin.
Source: TDPUD et.al., 2016.



Martis Valley Groundwater Management Plan. The Martis Valley Groundwater Basin underlies 36,357 acres in the eastern portion of Nevada and Placer Counties as shown in Figure 4-7. TDPUD⁷ and the Northstar Community Services District are the two local public

⁷ TDPUD adopted its first groundwater management updated groundwater management plans.

water districts that depend on the Martis Valley Groundwater Basin (MVGB) for their water supply. In April 2013, the two⁸ Districts partnered with the U.S. Bureau of Reclamation to update a groundwater management plan (the “Groundwater Management Plan”). The Groundwater Management Plan provides guidance necessary to align groundwater policy and contains Basin Management Objectives and implementation actions that the three water agencies collaborate to achieve (Brandis Tallman, 2015). The Martis Valley Groundwater Management Plan was prepared by Brown and Caldwell and Balance Hydrologics in April 2013. A finite element model for the Martis Valley Groundwater Basin was also developed by the Desert Research Institute⁹. The TDPUD approved the Martis Valley Groundwater Management Plan via Resolution #2013-04. An annual meeting to discuss the implementation of the Groundwater Management Plan is held among the partner Districts. Additionally, they hope to update the Groundwater Management Plan every five years, summarizing groundwater conditions and management activities for the period covered (Brandis Tallman, 2015).

Sustainable Groundwater Management Act. In 2014, California passed the Sustainable Groundwater Management Act¹⁰ (SGMA) which requires agencies to achieve “sustainable groundwater management”.

- The MVGB was identified as a “medium” priority basin in 2015 by DWR. High priority and medium priority groundwater basin managers often comply with SGMA through an “Alternative Submittal”, which can be submitted instead creating a groundwater sustainability agency (GSA) and submitting a groundwater sustainability plan. TDPUD and its partners (Placer County, Nevada County, Town of Truckee, and the Northstar Community Services District as shown on Figure 4-8) sent their Alternative Submittal plan¹¹ to the DWR to cover the Martis Valley Groundwater Basin.

⁸ In April 2013, the Placer County Water Agency (Zone 4) was a partner in the Plan. However, in 2015 Placer LAFCO approved expansion of the Sphere of Influence of NCSO to encompass Zone 4 and later NCSO assumed responsibility for Zone 4.

⁹ The finite element model for the Martis Valley Groundwater Basin is documented in this paper: Integrated Surface and Groundwater Modeling of Martis Valley, California, for Assessment of Potential Climate Change Impacts on Basin-Scale Water Resources, prepared by Desert Research Institute, Reno, Nevada, April 2015.

¹⁰ Additional information about SGMA is available on-line as follows:

- SGMA - <https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management>
- SGMA Portal - <https://sgma.water.ca.gov/portal/#intro>
- Basin Prioritization - <https://water.ca.gov/Programs/Groundwater-Management/Basin-Prioritization>
- Martis Valley Alternative Submittal - <https://sgma.water.ca.gov/portal/alternative/print/14>

¹¹ In 2016, TDPUD and its partners jointly signed a Memorandum of Agreement authorizing submittal of an alternative plan and formation of a Management Committee (Placer County, 2016) and they collaboratively developed an alternative plan. This alternative plan was submitted to DWR on December 22, 2016 (TDPUD et. al., MVGBSGMAAS, 2016). After TDPUD’s Alternative Submittal had been provided to DWR, a public comment period during the years 2017 to 2018 saw seven comment letters submitted. Five of the comment letters were from non-profit organizations such as The Nature Conservancy, Sierra Watch, Mountain Area Preservation, and Trout Unlimited. One comment letter was

- On January 4, 2019 DWR released the results of reprioritization and the Martis Valley Basin was reprioritized to very low (DWR, 2019). Therefore, TDPUD and its partners are not required to prepare an Alternative or GSA/GSP (Godwin, DRW, 2019). Due to DWR's reclassification of the groundwater basin to "very low" priority, the TDPUD Board of Directors withdrew their MVGB SGMA Alternative Submittal during their February 4, 2019 meeting as outlined in the Board Resolution 2019-04.
- SGMA and other state and federal regulations regarding drinking water are described in Appendix 9.

Figure 4-8: Local SGMA Agencies. Source TDPUD et.al., 2016

Settlement Act and Truckee River Operating Agreement. The Martis Valley Groundwater Basin is encompassed within the Truckee River Watershed. The Truckee-Carson-Pyramid Lake Water rights Settlement Act (Settlement Act), Public Law 101-618 was adopted by Congress and Signed by the President in 1990. The Settlement Act defined entitlements to water from Lake Tahoe, the Truckee River and its tributaries. It also outlined how the storage reservoirs of the Truckee River should be operated. The Federal Settlement Act precludes the diversion of surface water in the Truckee River for use outside of the Truckee River Watershed. Additionally, the Settlement Act limits the State of California's total water use for the Truckee River basin (including the MVGB) to 32,000 acre-feet per year, including use of both surface and groundwater (Settlement Act, Sec. 204(c)(1)) (TDPUD et. al., 2016). The Settlement Act's Section 205 directs the federal Department of Interior to negotiate an operating agreement, which has since become known as the Truckee River Operating Agreement (TROA). Both the Settlement Act and TROA are described in further detail in Appendix 12. The TROA sets maximum municipal and industrial water use for California, which limitation is more than two times greater than the current production from the Martis Valley Basin for all public and private groundwater users. The District does not expect the TROA to change the District's long-term water supply availability (Brandis Tallman, 2015). Other state and federal regulations regarding drinking water are described in Appendix 9.



from a state agency, the California Department of Fish and Wildlife. The fifth comment letter was from a private citizen, a resident of Truckee (DWR, 2018). See <https://SGMA.water.ca.gov> for additional details.

Water Supply

Geographically, the TDPUD and its customers reside within the Truckee River watershed. The Truckee River is a surface water body originating at Lake Tahoe and terminating at Pyramid Lake, in the State of Nevada as described in Appendix 5. The Truckee River watershed includes numerous tributaries and ephemeral creeks. The Truckee River Basin climate is characterized by cold, wet winters and mild, short summers where most precipitation falls as snow from November to April. The Truckee River watershed generally encompasses the Martis Valley Groundwater Basin (MVGB). The Martis Valley Groundwater Basin (MVGB, No. 6-67, Bulletin 118, DWR, 2006) is an intermontane, fault-bounded basin east of the Sierra Nevada crest encompassing 57 square miles in surface area. California’s Department of Water Resources characterizes this groundwater basin as shown in Table 4-10, below.

Table: 4-10: Martis Valley Groundwater Basin Data	
CA Department of Water Resources: SGMA Basin Prioritization Dash (2018 Draft)	
Groundwater Basin Name	Martis Valley
Groundwater Basin Number	6-067
Basin Area in Acres	36,357
Basin Area in Sq. Miles	56.8
Hydrologic Region	North Lahontan
DWR Priority Level	Very Low
DWR Population Estimate in Basin	14,743
Average Population per Sq. Mi.	259.52
DWR Permanent Population Projection in 2030 in Basin	18,640
Population Growth Rate in Years 2000 to 2010	26.43
# Public Groundwater Wells	14
Public Wells per Sq. Mi.	0.24
# Total Groundwater Wells in Basin	294
Production Wells per Sq. Mi.	5.17
Annual Groundwater Use Total in 2014 (acre-feet)	4,310
Groundwater Use per Acre in Basin (acre-feet)	0.11
Surface Water Use (acre-feet)	14
<i>Data Source: https://gis.water.ca.gov/app/bp2018-dashboard/#</i>	
<i>Data downloaded on 15December2018 and updated on 22January2019</i>	

Within the MVGB, downward movement along fault lines has progressed within an outline surrounding high angle normal faults. These structures roughly define the sides to the Basin. The extension of the earth’s crust within this part of the Basin and Range Province has served as the driving mechanism that has developed the area’s horst and graben terrain. Downward movement of the basin’s floor, comprising Cretaceous-Jurassic plutonic and metamorphic rocks and Miocene volcanics, has resulted in the deposition of sediments and intermediate to mafic lavas, tuffs, and volcanoclastic materials of late Miocene to Quaternary age within the evolving

depression. Drilling logs indicate these soil deposits are over 1,000 feet thick and are now host to unconfined and confined aquifers of the Basin (Nevada LAFCO's 2013a SOI DEIR). The MVGB is recharged primarily by snowfall and snowmelt; however, recharge areas are not evenly distributed within the basin as shown in Figure 4-9. Lower elevation alluvial areas generally have better recharge rates (Rajagopal et. al. 2015).

Both the Truckee River watershed and the Martis Valley Groundwater Basin are part of the North Lahontan Hydrologic Region, as identified by the California Water Resources Control Board. The surface water and the MVGB groundwater are hydrologically interconnected such that local creeks and rivers re-charge the groundwater and local springs bring groundwater up to the surface (TDPUD et. al., 2016). Additionally, groundwater discharge generally occurs along the courses of creeks and the Truckee River (TDPUD et. al., 2016). For example, a large proportion of Martis Creek's flow is from groundwater influx (Avery et. al. 2018). The total quantity of groundwater naturally stored in the MVGB is conservatively estimated to be approximately 1,000,000 acre-feet (TDPUD et. al., 2016). Only a small amount of this stored water is actually pumped out.

TDPUD obtains all of its water supply from groundwater in the MVGB through local deep drilled wells owned by the District (Brandis Tallman, 2015). The District meets its water supply demand primarily through pumping water from its 14 deep drilled wells (11 of these are "active"). TDPUD expects this groundwater supply to meet all future water demands through 2030 (Brandis Tallman, 2015). The Martis Valley basin is a non-adjudicated basin under State law. However, the Truckee River Operating Agreement (TROA) and the State Groundwater Management Act (SGMA) guide the District's use of water from the Martis Valley Groundwater Basin as described on the previous page and in Appendix 12. To date, these rules have not changed the District's water supply availability.

History of Surface Water Sources

LAFCO's 2013 SOI found that the District holds the water rights formerly held by the Donner Lake Water Company but does not have any other rights of record. The Donner Lake Water Company held rights to 1,000-acre feet per year to Donner Lake¹², located on Donner Creek, a tributary to the Truckee River. TDPUD's use of these historic water rights would require the installation of new facilities and the acquisition of a new site to pump the water (LAFCO, 2013b, pg. 25).

¹²¹² During the 1980's TDPUD purchased the Del Oro water system which held the rights to the 1,000 acre-feet of water in Donner Lake (USBR 2013, PCWA 2015). TMWA and TCID jointly hold rights to a majority of the Donner Lake water supply. The dam on Donner Lake is operated to prevent the water surface elevation from exceeding 5,935.8 feet above mean sea level (State Water Board 2002). Except for minimum instream flows, water can only be released during June, July, and August if the lake elevation is greater than 5,932.0 feet. By November 15, the lake elevation must be lowered to 5,926.9 feet to meet dam safety requirements. During normal operations, all inflow is released between November 15 and April 15 (USBR, 2015).

In 1968, the State Water Resources Control Board approved D-1301 granting TDPUD rights to Hofert Springs, a tributary to Trout Creek, which flows into the Truckee River in Nevada County. The amount of water was estimated to be 112 gallons per minute (SWRCB, 1968). This water was intended to serve the Gateway Donner Trail system, which was subsequently merged with the District's Truckee Water System.

There are a total of 131 water right permits issued for surface waters in the Truckee River Watershed according to the State Water boards Electronic Water Rights Information Management System (eWRIMS). A history of surface water rights granted to the Truckee Donner PUD is shown in Table 4-11, below. Any proposed future use of surface water would entail significant capital improvements (Brandis Tallman, 2015).

Sustainable Yield for MVGB

Several hydrologic and geologic studies have been conducted about the MVGB sustainable yield estimates and the findings from these studies are summarized in TDPUD et. al. 2016 as follows:

- The MVGB has operated within sustainable yield over a period of at least 25 years (Spring, 1991 to Spring, 2016) as defined by SGMA.
- Sustainable yield of the MVGB has been estimated between 22,000 - 25,000 Acre-Feet per Year (AFY) as compared to ~7,000 AFY current production, ~13,000 AFY build out projection, and 17,600 AFY maximum total net depletion as defined in the TROA Settlement Act.
- Groundwater pumping in the MVGB represents less than 2% of the system's total water budget and is closer to 1% when returns to the water system from the regional sewage treatment plan are considered.
- The MVGB had a net increase in storage over the period of 1990 to 2015 during which the region saw significant growth and several multi-year droughts.
- The Local SGMA Agencies did not witness lowering of water levels during the most recent historic California drought; and
- There is no current evidence of undesirable results that are significant or unreasonable due to groundwater use in the MVGB.

(Source: TDPUD et. al. 2016)

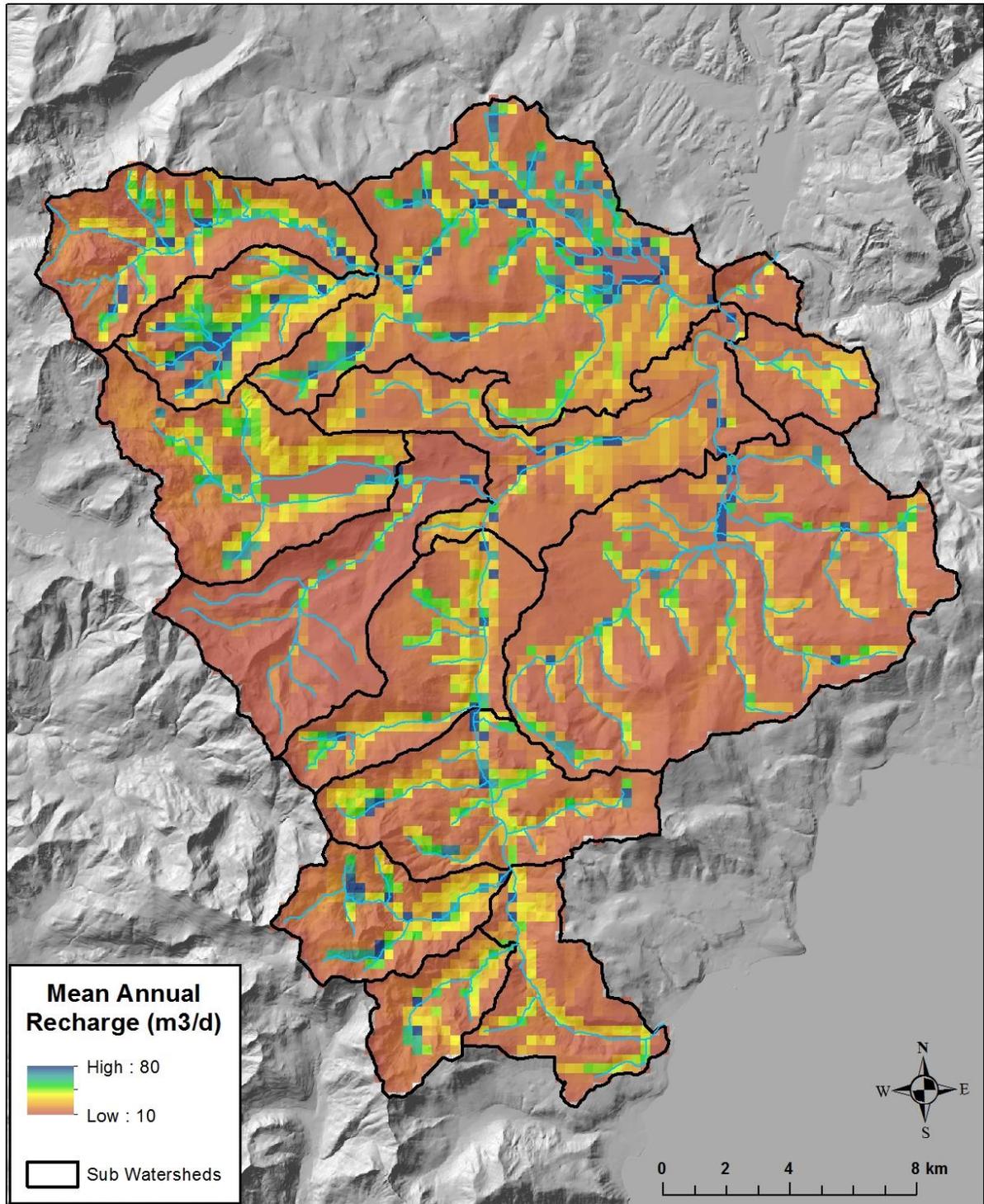


Figure 4-9 Mean annual recharge (simulated as flux to the saturated zone) over the historical simulation period from 1980 to 2011. From Gardner (2014) as published in Rajagopal et. al. 2015.

Map of Groundwater Recharge Areas

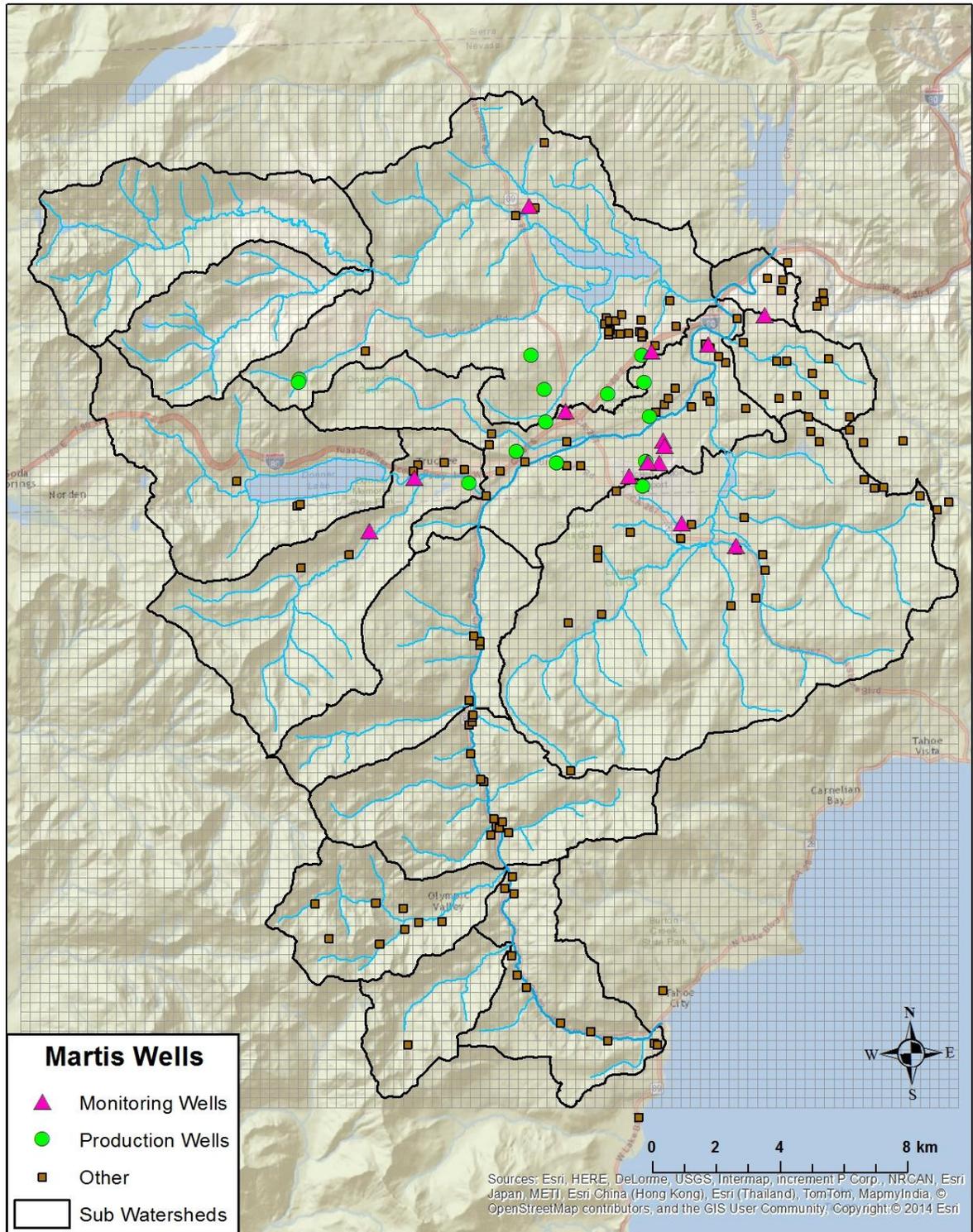


Figure 4-10 Well locations within Martis Valley

Data source: Rajagopal, Seshadri; Justin L. Huntington; Richard Niswonger; Greg Pohll; Murphy Gardner; Charles Morton; Yong Zhang; and Donald M. Reeves. April 2015. Integrated Surface and Groundwater Modeling of Martis Valley, California, for Assessment of Potential Climate Change Impacts on Basin-Scale Water Resources. Prepared for Department of Interior, U.S. Bureau of Reclamation. Publication No. 41261. 55-pages. Available on-line at: <https://www.researchgate.net/publication/290606435_Integrated_Surface_and_Groundwater_Modeling_of_Martis_Valley_California_for_Assessment_of_Potential_Climate_Change_Impacts_on_Basin-Scale_Water_Resources>.

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Table 4-11: Water Rights List for Truckee Donner Public Utility District in the Truckee River Watershed

Primary Owner	Amount in acre-ft/yr	Application Number	Permit ID	License ID	WR Type	Status	Status Date	County	Source of Water
Truckee-Donner PUD	0.2	A017779	011998	006708	Appropriative	Licensed	08/19/1957	Nevada	Donner Ck
Truckee-Donner PUD	0	S009342			Statement of Div and Use	Inactive	01/31/2014		
Truckee-Donner PUD	181	A025624			Appropriative	Cancelled	12/18/2017		
Truckee-Donner PUD	0	S009511			Statement of Div and Use	Claimed	12/30/1977	Nevada	Trout Creek
Truckee-Donner PUD	0.3	A017778	011997	006707	Appropriative	Licensed	08/19/1957	Nevada	Donner Ck
Truckee-Donner PUD	0.2	A017781	012000	006710	Appropriative	Licensed	08/19/1957	Nevada	Donner Ck
Truckee-Donner PUD	0	S009510			Statement of Div and Use	Claimed	12/30/1977	Nevada	Donner Ck
Truckee-Donner PUD	1260	A023350			Appropriative	Cancelled	12/18/2017		
Truckee-Donner PUD	181	A020443	013815		Appropriative	Permitted	10/18/1961	Placer	Squaw Creek-
Truckee-Donner PUD	0	S013945			Statement of Div and Use	Claimed	11/22/1992	Nevada	Donner Ck
Truckee-Donner PUD	181	A022573	015695		Appropriative	Permitted	09/13/1966	Nevada	Trout Creek-
Truckee-Donner PUD	0.3	A017780	011999	006709	Appropriative	Licensed	08/19/1957	Nevada	Donner Ck

State Water boards: eWRIMS – Electronic Water Rights Information Management System
 Downloaded from:
https://ciwqs.waterboards.ca.gov/ciwqs/ewrims/EWServlet?Page_From=EWWaterRightPublicSearch.jsp&Redirect_Page=EWWaterRightPublicSearchResults.jsp&Object_Expected=EwrimsSearchResult&Object_Created=EwrimsSearch&Object_Criteria=&Purpose=&subTypeCourtAdjSpec=&subTypeOtherSpec=&appNumber=&permitNumber=&licenseNumber=&specialUseArea=&waterHolderName=&source=&hucNumber=&watershed=TRUCKEE+RIVER

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Physical Capacity

Water supply is provided to TDPUD via its infrastructure, primarily well pumps. As of 2015 TDPUD operated 12 wells in the MVGB as listed in Table 4-20 (see page 4-55) and in 2016 one well was dropped for a new total of 11 wells for potable water as listed in Table 4-20. Output of these wells ranges from a high of roughly 2,500 gallons per minute (“gpm”) from the Airport Well to a low of approximately 220 gpm from the Southside No. 2 Well. Total production capacity from these wells is 9,700 gallons per minute (“gpm”) which calculates to 13.97 mgd (TDPUD, 2017b). For additional information on wells, please see section 4.5: Present & Planned Capacity of Public Water Facilities on page 4-51.

Figure 4-11: Martis Valley Groundwater Basin

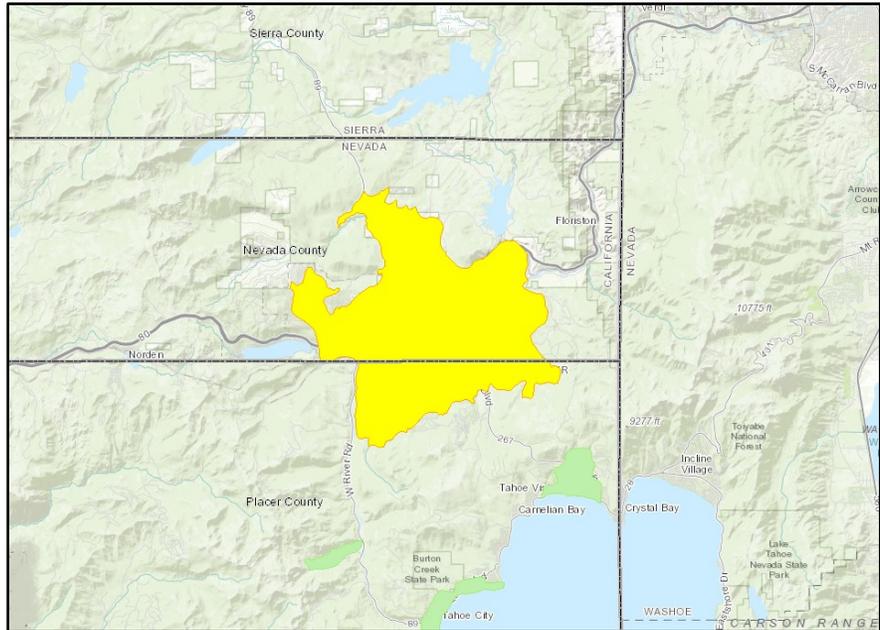
Historic and Existing Water Demand

Demand for municipal water service is comprised of sales, losses, and flows needed for fire prevention and other emergency services.

Sales

During the year 2015, TDPUD’s wells produced a total of 1,191 million gallons of potable water and 193 million gallons of raw water.

Single-family residential homes are the largest user of municipal water as shown in Table 4-12, below. Commercial accounts include private businesses, governmental offices, schools, and a golf course and these represent some of TDPUD’s largest customers as shown in Table 4-12, below. An example of a commercial account is the CHP Donner Pass Inspection Facility¹³ which obtains temporary emergency access to potable water due to failure of their groundwater well (TDPUD, 2017b). Raw water sales serve golf course irrigation demands and comprise 14 percent of total water produced. Potable water production for the year 2015 averaged 3.26 million gallons per day (mgd). Peak water demand occurred on a June day in 2015 at 7.72 mgd. Historically, the highest peak water demand occurred in the year 2007 at over 14 mgd as shown in Figure 4-12 (TDPUD, 2016).



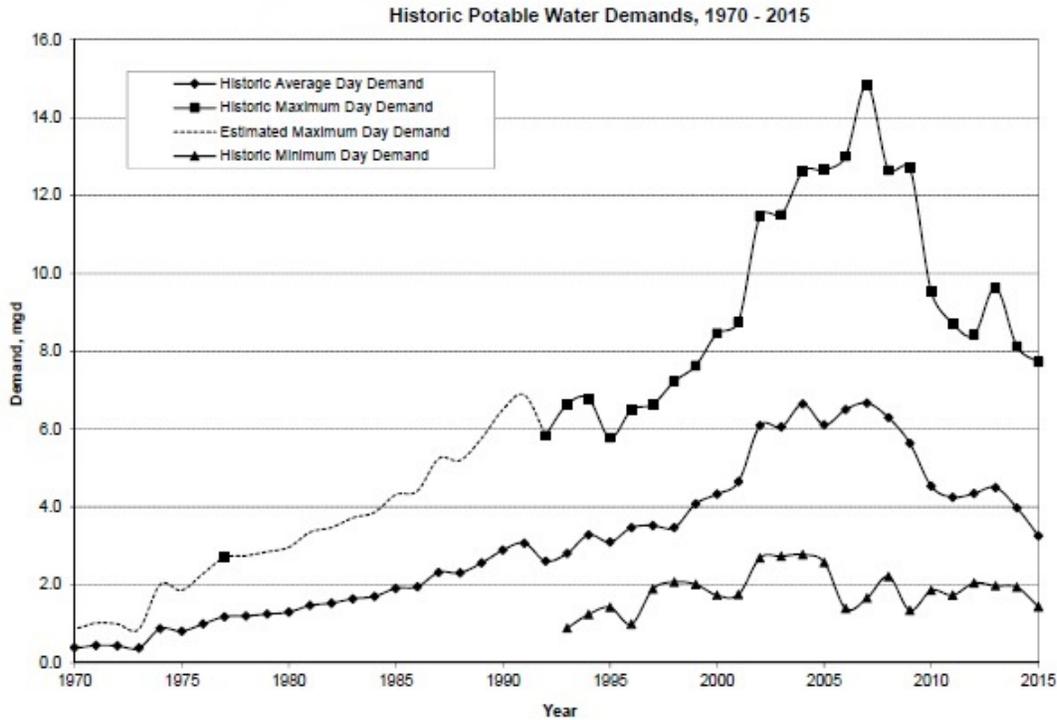
¹³ The CHP Inspection Facility is located at 12800 I-80, Truckee, CA 96161 and is within the PUD’s existing boundaries.

Table 4-13: Demands for Potable Water and Raw Water, Actual, 2015

Use Type	Additional Description	Level of Treatment	Volume (million gals)
Single-Family		Drinking Water	602
Multi-Family		Drinking Water	69
Commercial		Drinking Water	91
Industrial		Drinking Water	0
Institutional/Governmental		Drinking Water	40
Landscape		Drinking Water	44
Saline Water Intrusion Barrier		Drinking Water	0
Agricultural Irrigation		Drinking Water	0
Wetlands or Wildlife Habitat		Drinking Water	0
Sales/Transfers to Other Agencies		Drinking Water	0
Losses		Drinking Water	345
Other	Irrigation	Raw Water	193
Total			1,384

Source: TDPUD, 2016

Figure 4-12: Graph of Historic Potable Water Demands, 1970 to 2015



Source: TDPUD, 2016

The data in Figure 4-12, above, show that there has been an increase in pumping from the 1980's to present day, on average. Pumping rates peaked in 2007 and have since declined slightly, likely in response to the multi-year drought and customer's response to calls for water conservation.

The TDPUD experiences dramatic changes in seasonal water demands, with summer demands (driven by residential irrigation) are significantly higher than winter demands. Historically, the winter water demand is approximately 1/3 that of the summer seasonal demand, predominantly driven by the seasonal need for outdoor landscape irrigate.

The average daily deliveries are:

Summer Average: 6.2mgd Summer Peak: 7.5mgd
 Winter Average: 2.3mgd Winter Peak: 2.5mgd (Source: TDPUD, 2017b)

Largest Customers

The following table sets forth the 10 largest customers of the Water System as of December 31, 2014, as determined by the amount of their respective annual payments. The 10 customers listed below accounted for approximately 23% of the Water System’s total water usage and 5% of total revenues from sales to customers for the year ended December 31, 2014 (Brandis Tallman, 2015**).

Table 4-14: Truckee Water System Largest Customers in 2014

WATER SYSTEM LARGEST CUSTOMERS		
Fiscal Year 2014		
Truckee Donner Public Utility District		
<u>Customer Name</u>	<u>Water Usage⁽¹⁾</u>	<u>Annual Payments</u>
1. Tahoe Mountain Club – Old Greenwood and Gray’s Crossing	174,582,716	\$156,375 ⁽²⁾
2. Coyote Moon Golf Course	66,043,306	48,082 ⁽²⁾
3. Tahoe Donner Association	34,256,097	108,637
4. Truckee Donner Recreation and Park District	27,846,526	57,254
5. Tahoe Truckee Unified School District	19,767,896	43,919
6. Village Green Mobile Home Park	15,286,198	30,168
7. Tahoe Forest Hospital	13,120,223	40,655
8. Bob Gales (Coachland)	12,821,000	24,878
9. Donner Creek Mobile Home Park	10,047,980	16,682
10. Sierra Village Apartment Homes	5,714,368	18,479
	<u>379,486,310</u>	<u>\$545,128</u>
	1,682,393,977	\$10,102,819
	22.56%	5.40%

⁽¹⁾ Water usage in gallons.

⁽²⁾ These customers pays modified rates for their use of non-potable water as described in Footnote 1 to “Table 10” herein.

Source: The Truckee Donner Public Utility District. as published by Brandis Tallman LLC, July 2015

Historic Water Production, Accounts and Sales Revenues. The following tables show the total amount of water produced by the Water System compared with the total change in the number of residential and commercial accounts, as well as residential and commercial sales revenues for the five most recent Fiscal Years. The term “water production,” in the context of the Water System, means the total amount of water pumped from the 11 deep drilled wells (Brandis Tallman, 2015**).

Table 4-15: Historic Water Production and Accounts

HISTORIC WATER PRODUCTION AND ACCOUNTS
Fiscal Years 2010 through 2014
Truckee Donner Public Utility District

<u>Fiscal Year</u>	<u>Total Production⁽¹⁾ (Million Gallons)</u>	<u>Total % Increase/ (Decrease)</u>	<u>Commercial Accounts</u>	<u>Commercial Accounts % Increase/ (Decrease)</u>	<u>Residential Accounts</u>	<u>Residential Accounts % Increase/ (Decrease)</u>
2010	1,786	(13.13)%	695	3.73%	11,876	(0.20)%
2011	1,727	(3.31)	709	2.01	11,711	(1.39)
2012	1,857	7.53	706	(0.42)	11,753	0.36
2013	1,846	(0.58)	706	(0.00)	11,809	0.48
2014	1,682	(8.88)	699	(0.99)	11,915	0.90

⁽¹⁾ Approximately 72% of the water produced by the Water System is currently delivered to and paid for by Water System customers.

Source: *The Truckee Donner Public Utility District, as published by Brandis Tallman LLC, July 2015*

Losses

TDPUD has a program to assess and manage leaks (losses) in its distribution system including:

- Active leak repair program
- Distribution system leak surveys
- Leak detection equipment

Estimated operational losses are approximately 345 million gallons per year, according to TDPUD’s 2015 UWMP (TDPUD, 2016). This water system loss average 25 percent of total water production per year. The 2015 UWMP identifies several maintenance and capital improvements that will minimize pressure loss, improve fire flow, and correct system deficiencies including continued installation of water meters, replacement of aging pipelines, monitoring for leaks. With these future infrastructure projects, the District expects water losses to decrease in future years (TDPUD, 2016).

Fire Flows

Fire safety experts often describe two types of fires:

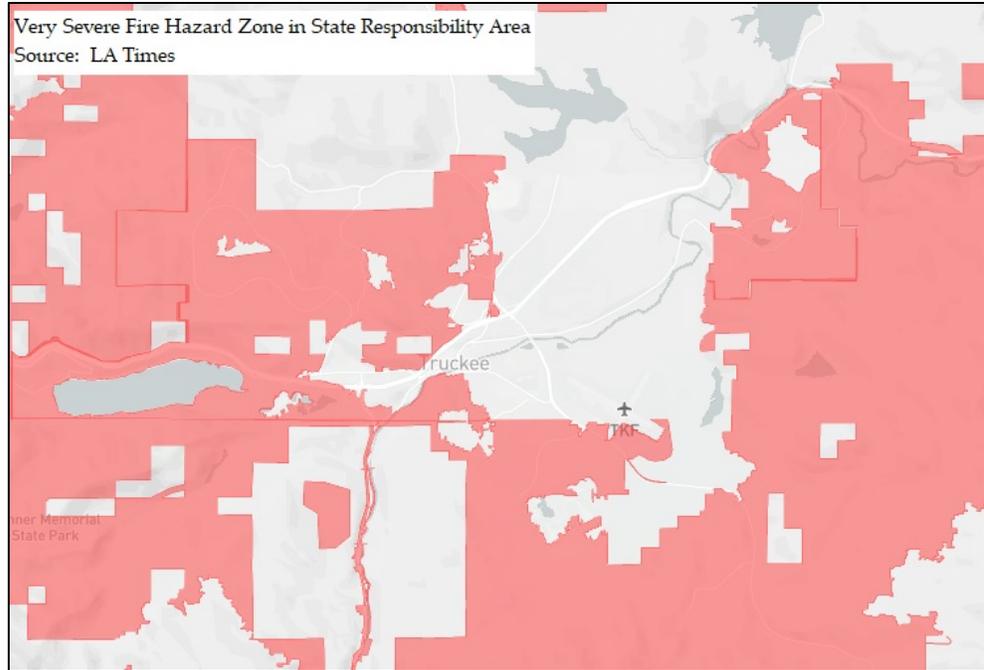
1. structural fires in urban and suburban locations, and
2. wildfires in rural and natural areas.

For the first type of fire in urban and suburban locations, the Truckee Fire Protection District (TFPD) utilizes its eight fire stations and 66 paid staff to provide fire protection services to its 120 square mile service area. The Town of Truckee General Plan Safety Element contains

several policies related to fire protection services. LAFCO prepared a MSR¹⁴ for the TFPD in January 2005 and LAFCO adopted the SOI¹⁵ for the TFPD January 2014. Water is the primary tool that TFPD fire fighters use to suppress fires and to protect homes and businesses within and near the Town of Truckee. Fire hydrants are one way (along with numerous lakes and ponds) that fire fighters access water and a generally accepted fire flow standard is 1,500 gallons per minute (gpm). The State Fire Code contains the requirements regarding placement and functionality of fire hydrants. The Truckee Fire Protection District has

Figure 4-13: Severe Fire Hazard Areas SRA
Note: This figure does not provide information on the lands in Federal response areas nor local response areas.

approximately 4,000 fire hydrants within its jurisdiction (Brown, 2019). The TFPD has an “Adopt a Hydrant” program to encourage local residents to keep hydrants clear of snow, debris, and other obstacles. TDPUD provides water to supply many of these hydrants¹⁶.



Additionally, all pressure zones in the District are evaluated as to their fire flow requirements and time durations and confirmed by the Truckee Fire Protection District. The Truckee Water System Water Master Plan Update does show that that TDPUD is involved with helping to relocate hydrants as needed (TDPUD, 2012).

¹⁴ The MSR for the Truckee Fire Protection District is available on-line at: <https://www.mynevadacounty.com/DocumentCenter/View/14250/2005-All-County-Fire-and-Emergency-Services-MSR-PDF>

¹⁵ The SOI for the Truckee Fire Protection District is available on-line at: <https://www.mynevadacounty.com/DocumentCenter/View/14240/Fire-Agencies-Sphere-of-Influence-Update-2013--2014-PDF>

¹⁶ In the Donner Summit area, the Donner Summit PUD provides water to the hydrants. In other specific geographic neighborhoods, private water providers may provide water to local hydrants.

The second type of fire is wildland fires. The area surrounding Truckee is located on the east slope of the Sierra Nevada mountain range and does contain rural areas and wildlands as shown in Figure 4-13. The slopes are forested, while the Martis Valley and other nearby valleys contain meadows, grasses, shrubs, and riparian areas. The forest is comprised of white and red fir and a dense understory of small trees, brush and down woody material. These fir forests are a fire-dependent ecosystem and naturally occurring fires from lightning strikes and those set intentionally by native Americans have shaped the structural components of the forest by mixing and improving the availability of key nutrients. Historically, fires had a light intensity which removed fuel from the forest floor. Modern management methods have altered the fire regime. Wildland fires mostly fall under the responsibility of CalFIRE and the U.S. Forest Service. These state and federal agencies use a variety of tools to combat wildland fires including:

- Dirt (moved by bulldozers and personnel wielding fire axes and hoes etc.)
- Foam
- Red fire-retardant chemical dropped by aircraft
- Water

Both CalFIRE and the U.S. Forest Service will utilize water since it is an excellent firefighting tool, as it is both efficient and relatively inexpensive. Although water from lakes and rivers is their primary source, the agencies will sometimes utilize fire hydrants when they are available (TFPD, 2016). Typically, fire flows for fire hydrants do not include water for wildland fires in the calculation since hydrants are rarely used for this purpose.

Flows During Other Emergencies

Public water agencies are required to maintain systems that can endure a prolonged disruption of normal service. The California Department of Health Services require a water system to have adequate source water to provide the maximum day demand for the distribution system with the largest source of water out of service. Demands in excess of the average on the maximum day should be supplied from either storage tanks or groundwater storage via additional groundwater well pumping capacity. The District's policy requires that source water capacity meet the maximum day demand with the largest groundwater well out of service. Emergency storage is based on the historical record of emergencies experienced and on the amount of time expected to lapse before an anticipated emergency can be corrected. TDPUD calculates this storage requirement as the emergency storage volume is equal to the average day's demand (Nevada LAFCO, 2005). Mutual aid agreements are agreements between agencies, organizations, and jurisdictions that provide a mechanism to quickly obtain emergency assistance in the form of personnel, equipment, materials, and other associated services. TDPUD maintains a mutual aid agreement with North Lake Tahoe Public Utilities District, Incline Village, Tahoe City Public Utilities District, Squaw Valley Water District, Alpine Meadows Water District, Alpine County Water District, and Northstar Community Services District (Nevada LAFCO, 2005).

Water Demand for Entire MVGB

Historic water demand, which has been averaged over a 25-year time period from 1990 to 2014, for the MVGB is shown in Table 4-16, below. TDPUD is the largest pumper of groundwater in the MVGB using 77 percent of the total pumped over the 25-year timespan.

MVGB Groundwater Pumping	Average Annual (AFY)	Average Annual (mgpy)	Percent of Total
Truckee Donner PUD (total potable + irrigation)	5,375	1,751	77%
Northstar Community Service District (including Zone 4)	113	36.82	1.60%
Schaffer's Mill Golf Course	41	13.36	0.60%
Glenshire Mutual Water Co.	835	272.1	12%
Donner Creek Mobile Home Park	55	1.63	0.80%
Tiechert	354	115.4	5%
Public Small Water Systems	10	3.259	0.10%
Domestic Wells	199	64.84	3%
TOTAL AVERAGE ANNUALLY	6,982	2,259	100%

Data Source: Table 1B in TDPUD et.al., 2016

More recent data on water demand by sector for the entire MVGB, including TDPUD, NCSD, and other uses is listed in Table 4-17 below.

Water Use Sector	2016	2017
Municipal and Industrial (M&I)	5,623	5,407
Groundwater Metered	5,190	4,974
Groundwater Estimated	433	433
Golf Courses	1,012	1,012
Groundwater Estimated	985	985
Surface Water Estimated *	27	27
Total	6,635	6,419

** Only includes water sources in MVGB. Use and recharge of water from outside the basin.
Source for this Table: TDPUD et. al. 2018 -GEI report on annual SGMA.*

Based on the data provided in Tables 4-16 and 4-17 above, it appears that total groundwater pumping in the Martis Valley Groundwater Basin may be decreasing from an average of 6,982 AFY during 1990 to 2014, to 6,635 AFY in 2016, and down to 6,419 AFY in 2017.

Projected Future Demand

Section 4.2 of this MSR provides an estimated range of the number of people (residents and visitors) within the District boundaries requiring municipal water services during peak season in the year 2040 at 50,446 people under the slow growth scenario to 165,999 people under the fast growth scenario. In the year 2035, the District projects it will sell 2,481 million gallons per year as shown in Table 4-18 (TDPUD, 2016). This represents a 79 percent increase above current (2015) production of 1,384 million gallons per year per the UWMP.

Use Type	Additional Description	Volume (million gals)			
		2020	2025	2030	2035
Single-Family	Drinking Water	709	816	924	1030
Multi-Family	Drinking Water	141	200	259	318
Commercial	Drinking Water	143	181	219	257
Industrial	Drinking Water	1	1	2	2
Institutional/Governmental	Drinking Water	106	157	209	261
Landscape	Drinking Water	83	92	102	112
Saline Water Intrusion Barrier	Drinking Water	0	0	0	0
Agricultural Irrigation	Drinking Water	0	0	0	0
Wetlands or Wildlife Habitat	Drinking Water	0	0	0	0
Sales/Transfers	Drinking Water	0	0	0	0
Losses	Drinking Water	345	335	305	261
Other	Raw Water	240	240	240	240
Total		1768	2022	2260	2481

Source: TDPUD, 2016

Projected Water Demand in MVGB: Future water demand projections at “build-out” for the Martis Valley Groundwater Basin are estimated in the District’s 2015 UWMP as listed in Table 4-19, below. The UWMP’s “build-out” is assumed to be the population in the year 2040 for purposes of this MSR.

Table 4-19: Anticipated (Future) MVGB Withdrawals at "UWMP Buildout"			
Groundwater Pumping	Estimated Withdrawal Annual (AFY)	Estimated Withdrawal Annual (mgpy)	Percent of Total
Truckee Donner PUD (total potable + irrigation)	9,124	2,973	71%
Northstar Community Service District (including Zone 4)	2001	652	15%
Schaffer's Mill Golf Course	249	81	2%
Glenshire Mutual Water Co.	n/p	n/p	
Donner Creek Mobile Home Park	n/p	n/p	
Tiechert	n/p	n/p	
Public Small Water Systems (State and Federal)	64	21	0%
Domestic Wells	773	252	6%
Tahoe Donner Golf Course	212	69	2%
Ponderosa Golf Course	21	7	0%
Martis Camp Golf Course	249	81	2%
Lahontan Golf Course	249	81	2%
TOTAL AVERAGE ANNUALLY	12,942	4,217	
Note: n/p = data not provided			
<i>Data Source: Table 6-3 in 2015 UWMP, TDPUD, 2016</i>			

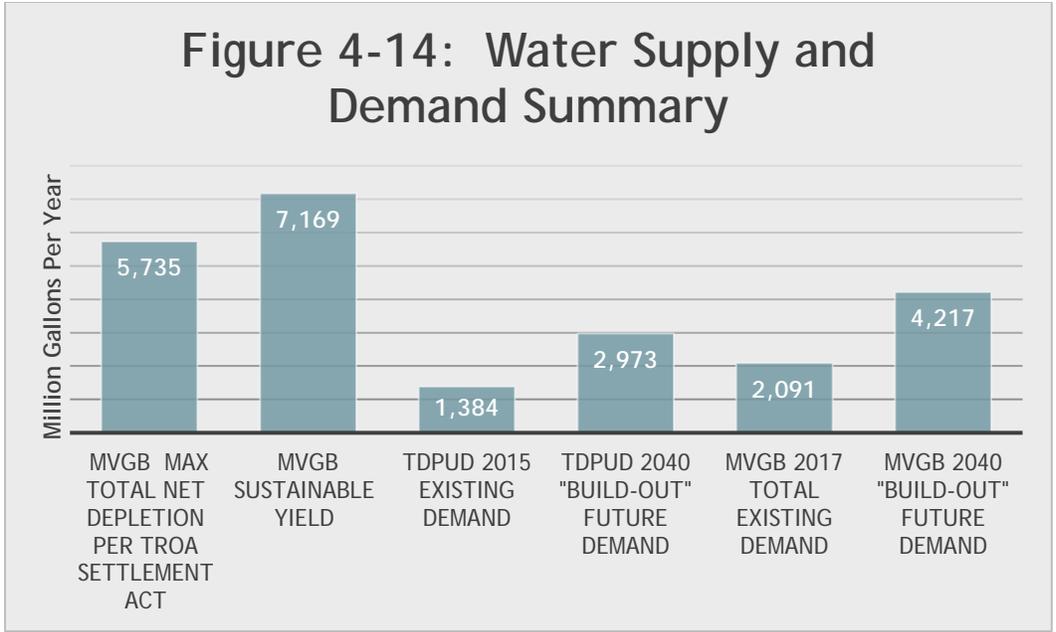
Data for future water demand from the Glenshire Mutual Water Co., Donner Creek Mobile Home Park, and Tiechert, who are all water users in the Basin, was not provided in the 2015 UWMP. However, it is noted that the total existing (2015) water demand from these sources is 1,244 acre feet per year as listed in Table 4-16.

Comparison of Supply to Demand

In the year 2035, the District projects it will sell 2,481 million gallons per year as shown in Table 4-18 and at "build-out" (2040) the demand estimate is 2,973 million gallons per year as shown in Table 4-19 (TDPUD, 2016). When comparing projected future water demand to anticipated future water supply, it is important to note that the total quantity of groundwater naturally stored in the MVGB is conservatively estimated to be approximately 1,000,000 acre-feet (TDPUD et. al., 2016). Only, a small amount of this stored water is actually pumped out. TDPUD has participated in studies of sustainable yields for the MVGB as previously described in page 4-39 of this MSR. Sustainable yield of the MVGB has been estimated between 22,000 - 25,000 Acre-Feet per Year (AFY) as compared to ~7,000 AFY current production, ~13,000 AFY build out projection, (TDPUD, 2016 and Table 4-19, above). The terms of TROA limit total net

depletion of the for the Truckee River basin (as calculated under TROA) to 17,600 AFY and this is in excess of total projected groundwater demand as shown in Table 4-20, below (TDPUD, 2016).

Table 4-20: Water Supply and Demand Summary			
	Million gallons per year (mgpy)	Acre Feet per year (AFY)	Reference
<i>Supply</i>			
MVGB max total net depletion per TROA Settlement Act	5,735	17,600	TROA Settlement Act
MVGB Sustainable yield	7,169	22,000	TROA Settlement Act
<i>Demand</i>			
TDPUD 2015 Existing demand	1,384	4,247	TDPUD, 2016
TDPUD 2035 Future demand	2,481	7,614	Table 4-18: Estimated Future Water Demand - Truckee Water System
TDPUD 2040 "build-out" Future demand	2,973	9,124	Table 4-19: Anticipated (Future) MVGB Withdrawals at "UWMP Buildout"
MVGB 2017 Total Existing Demand	2,091	6,419	Table 4-17: Total Water Use for Water Years 2016 & 2017 (acre-feet)
MVGB 2040 "build-out" Future demand	4,217	12,942	Table 4-19: Anticipated (Future) MVGB Withdrawals at "UWMP Buildout"



At the UWMP “build-out” (estimated year 2040) withdraws of groundwater from the MVGB will reach 75 percent of the allowable TROA limit of 5,735 mgpy as shown in Figure 4-14 above. Hydrogeologic studies conclude that the amount of groundwater held in the basin is sufficient to supply current demands through 2030 even if no additional water enters the basin. Studies funded by the United States Bureau of Reclamation and others provide estimates of annual recharge ranging from 18,179 ac-ft/yr up to 35,168 ac-ft/yr and recharge rates will vary depending upon precipitation rates and evapotranspiration rates etc. (Rajagopal, 2015). Future pumping of MVGB water is projected by TDPUD to remain below the threshold of the most recent estimate of sustainable yield (~22,000 AFY). The analysis that quantified this estimate considered both surface water and groundwater conditions, and future pumping is not projected to exceed it (TDPUD, 2016 SGMA Alternative Submittal). TDPUD’s reports indicate that at full buildout, total pumping will only comprise approximately 3% of the average historic natural water budget. Thus, the District estimates that sufficient water will continue to be available to feed surface water features in the MVGB from a regional perspective (TDPUD, 2016 SGMA Alternative Submittal). Localized impacts to interconnected surface water might be detected and monitored via both groundwater monitoring wells (shallow and deep wells) adjacent to gaining reaches, springs, and associated ecosystems. Streamflow measurements at USGS and local stream gages in the Basin will continue to be assessed to ensure that groundwater withdrawals are not producing significant and unreasonable impacts in immediately adjacent reaches or regionally (TDPUD, 2016 SGMA Alternative Submittal**). However, it should be noted that these cited recent studies do have a few limitations including the following:

- Future population growth scenarios do not include:
 - the full buildout suggested by the Town of Truckee’s existing general plan (comparable to this MSR’s “fast-growth” scenario),

- Uncertainty about future growth in Truckee associated with the update to the Town of Truckee General Plan,
- new growth proposed in the unincorporated portion of eastern Placer County.
- Future climate change impacts to hydrology and municipal water supply remain poorly understood, although recent models have improved (Rajagopal, 2015).
- The ratio of water demand is compared to natural water supply; however, it would be better to compare water demand to the legally available water supply that considers TROA limitations.

The above study limitations pose a small risk that the future balance of water demand in relation to water supply is not clearly understood as detailed in Appendix 14. To address these limitations, Appendix 14 recommends two MSR determinations as follows:

- If the update to the Truckee General Plan allows population growth (both residents and visitors) that approaches the MSR “fast-growth” scenario, then TDPUD and the Town of Truckee should continue to closely coordinate regarding demands on future water supply. When TDPUD next updates its UWMP, expected in 2020, it should utilize future population projections are consistent with the projections of the Town and both Nevada and Placer Counties.
- TDPUD should continue to closely monitor the Town of Truckee’s General Plan Update process. TDPUD should ensure the Town understands that if future population growth approaches the MSR “fast-growth” scenario, extra care will be necessary when calculating future water demand in light of TROA limitations and other water supply constraints.
- Both TDPUD and the Town of Truckee should continue to consider cumulative future water demand on the MVGWB and should ensure the SGMA sustainability criteria will be met.

Additionally, the Desert Research Institute’s (DRI) 2015 study of the Integrated Surface and Groundwater Model suggest that climate change could potentially add stress to available surface and groundwater water resources in the Martis Valley. For example, the rate of groundwater recharge is expected to decrease in the future (Rajagopal, 2015). Therefore, they recommend a new synthetic experiment (i.e. computer modeling run) that includes both varied climate scenarios and also varied pumping rates that simulate future water demand scenarios because this type of study has not yet been done for the Martis Valley (Rajagopal, 2015). This type of study could also address the limitations noted in the preceding bullet points. This recommendation from DRI is reasonable given the existing and projected variable hydrologic conditions.

Potential for Water Shortages

All water districts in California may have some probability for future water shortages due to drought or other emergencies. Since it relies upon a high elevation groundwater aquifer, TDPUD does not expect future short-term droughts under standard climate scenarios, to have a significant impact on the water supply in the Martis Valley Basin (Brandis Tallman, 2015). Another potential cause of a water supply shortage is failure of a major water supply facility,

such as a well, pump station or transmission pipeline. Historically, the Truckee Water System has been most impacted by power outages. Since TDPUD is also an electricity supplier, it is in a solid position to address this potential future risk. In order to minimize the impacts of future power outages, the District has purchased trailer-mounted portable generators and has installed generators and manual transfer switches at its pump stations (Brandis Tallman, 2015). Additionally, the TDPUD has undergrounded several facilities and continues to build more redundancy and reliability into the system.

4.5: PRESENT & PLANNED CAPACITY OF PUBLIC WATER FACILITIES

The Water System consists of three types of facilities:

- Supply & Treatment facilities (11 deep drilled wells)
- Water storage facilities (36 water storage tanks, with a combined storage capacity of approximately 10.1 million gallons)
- Distribution and transmission facilities (25 pump stations and approximately 217 miles of pipeline varying from two to 24 inches in diameter).
- (Source: Brandis Tallman, 2015).

Supply & Treatment Facilities

TDPUD installed its first production well in the Martis Valley Groundwater Basin in the 1950's (TDPUD et. al., 2016). As of 2015 TDPUD operated 12 wells in the MVGB as listed in Table 4-21 and in 2016 one well was dropped for a new total of 11 wells. The District is the largest extractor in the MVGB (TDPUD et. al., 2016). Output of these wells ranges from a high of roughly 2,500 gallons per minute ("gpm") from the Airport Well to a low of approximately 220 gpm from the Southside No. 2 Well. Total production capacity from the 12 listed wells is 9,920 gallons per day ("gpd") which calculates to 14.3 mgd (TDPUD, 2016). Currently, maximum day demands are 10.4 mgd and average daily demand is just over 4.6 mgd (Brandis Tallman, 2015**).

Table 4-21: Summary of Potable Well Capacity in Year 2015

Name	Current Capacity, gpm
A Well	135
Airport	2,585
Glenshire Drive	1,480
Martis Valley Well No. 1	1,525
Northside	520
Old Greenwood	915
Prosser Annex	500
Prosser Heights	410
Prosser Village	800
Sanders	290
Southside No. 2	220
Well No. 20	540
Total	9,920

Note: Current capacity given is based on most recent data

Source: TDPUD, 2016

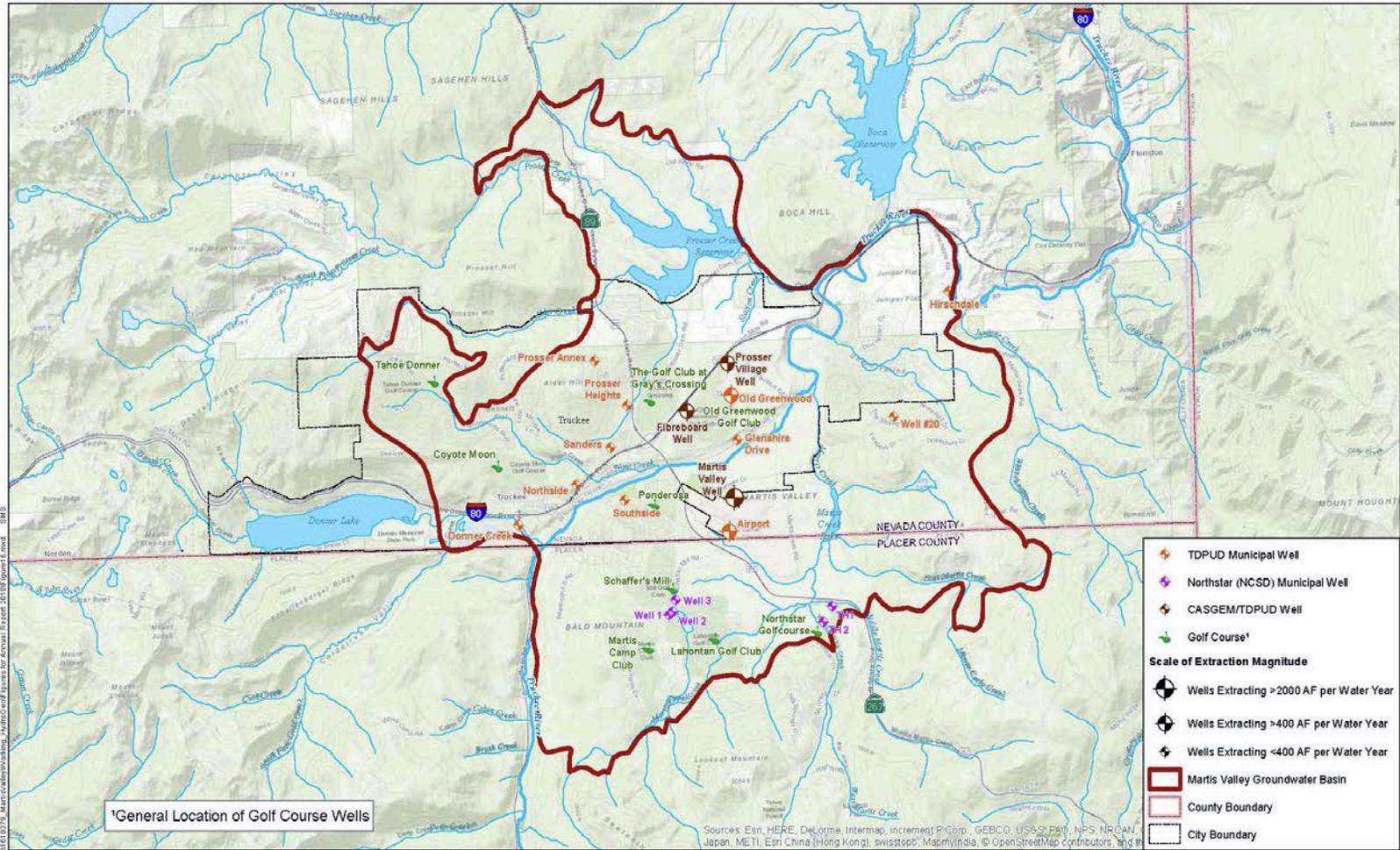
GROUND WATER WELLS

As of 2015 TDPUD operated 12 wells in the MVGB as listed in Table 4-21 and in 2016 one well was dropped for a new total of 11 active municipal wells. These active wells provide potable water to customers. In 2015 total production capacity of the active potable water wells was approximately 9,920 gpm (14.3 mgd). The wells are located at various locations throughout the distribution system. The locations of the wells are shown in Figure 4-15 and selected well characteristics are shown in Table 4–22 (TDPUD, 2016).

Table 4-19: Groundwater Extractions for 2016-2017															
Agency	Metered/ Estimated	2016			2017									Summary	
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Total	Percent
Public Utility Water Purveyors															
Truckee Donner PUD															
Potable															
1. Airport Well	Metered	22	6	7	12	9	16	5	10	14	36	17	10	163	
2. Martis Valley Well	Metered	175	156	176	176	162	104	174	184	201	208	207	198	2,122	
3. Southside Well	Metered	0	0	0	0	0	0	0	0	0	0	0	0	0	
4. Glenshire Dr Well	Metered	1	0	0	0	0	0	0	6	29	67	39	25	167	
5. Hirshdale Well	Metered	0	0	0	0	0	0	0	1	1	1	1	1	6	
6. Prosser Annex Well	Metered	11	0	0	0	0	0	0	10	19	23	19	15	98	
7. Prosser Heights Well	Metered	8	0	0	0	0	0	0	8	13	18	15	11	72	
8. Sanders Well	Metered	0	0	0	0	0	0	0	35	41	42	41	17	175	
9. Prosser Village Well	Metered	41	18	22	23	23	61	32	40	89	101	95	76	621	
10. Northside Well	Metered	0	0	0	0	0	0	0	0	9	17	19	10	55	
11. Old Greenwood Well	Metered	6	15	23	21	15	51	6	11	50	80	60	30	367	
12. Well 20	Metered	2	0	0	0	0	0	0	3	15	17	14	10	62	
13. "A" Well	Metered	0	0	0	0	0	0	0	0	8	29	13	0	50	
Non Potable															
14. Fibreboard Well	Metered	17	0	0	0	0	0	0	58	88	115	61	43	382	
15. Donner Creek Well	Metered	1	0	0	0	0	0	0	11	46	60	40	14	171	
16. Southside Well #1	Metered	0	0	0	0	0	0	0	0	0	2	3	2	7	
Subtotal		285	195	229	232	210	231	217	376	623	816	643	461	4,519	71%
Community Water Purveyors															
Northstar C.S.D.															
TH-1	Metered	5	3	3	3	5	2	0	6	11	12	8	6	65	
TH-2	Metered	3	3	4	5	3	2	0	3	14	14	7	10	67	
Well 1	Metered	18	5	4	5	4	3	3	9	22	29	27	23	152	
Well 2	Metered	10	3	4	5	3	3	3	10	21	31	31	23	148	
Well 3	Metered	2	1	1	1	1	1	1	1	3	5	4	3	24	
Subtotal		8	6	7	9	8	4	0	10	25	25	15	16	455	7%
Non Community Water Purveyors (Estimated using 2016 calendar year values. New values will be released later in 2018)															
Tahoe Timber Trails Water System	Estimated													17	
Eastern Regional Materials Recovery Facility/TART	Estimated													16	
Hobart Work Center	Estimated													3	
Silver Creek Camp Ground	Estimated													4	
Aggregates Martis Valley	Estimated													374	
Fir Craggs Summer Home Tract	Estimated													3	
TNF-Logger & Stamped RC	Estimated													3	
Zephyr Lodge, Northstar	Estimated													5	
George Gardai	Estimated													3	
UC Sagehen Creek Field Station	Estimated													5	
Subtotal														433	7%
Golf Courses (Estimated using 2016 calendar year values. New values will be released later in 2018)															
Gray's Crossing/Old Greenwood	Estimated	(Served by TDPUD and included in their total reported pumping)												-	
Coyotes Moon	Estimated	(Served by TDPUD and included in their total reported pumping)												-	
Schaffer's Mill	Estimated													144	
Lahontan	Estimated													284	
Northstar	Estimated	(Additional 82 AF served by NCS D and included in their reported pumping)												90	
Martis Camp	Estimated													287	
Tahoe Donner	Estimated	(Additional 61 AF served by TPUD and included in their reported pumping)												181	
Subtotal														985	15%
														TOTAL	6,392
1 Values reported in gallons and converted to acre-feet															
2 Values reported in million gallons and converted to acre-feet															
3 Estimated and obtained from Annual inventory of Water Use Lake Tahoe & Truckee River Basins Calendar Year 2016															
4 Groundwater use already accounted for in TDPU D reported pumpin and not included ingolf course demand subtotal															
Source: TDPUD, et. al. March 2018. Annual Report for Martis Valley Groundwater Basin Alternative Submittal, Water Years 16/17. Table 2. Written by: GIE Consultants, Inc..															

TDPUD also has six other wells as listed in Table 4-22, below.

Table 4-22: Other Wells	
Name of Well	Use of Water
<i>Non-Potable Water</i>	
Donner Creek Well	Connected to a separate piping system that is used to provide irrigation water to the Coyote Moon Golf Course.
Fibreboard Well	This well is to a separate piping system that is used to provide irrigation water to the Gray's Crossing and Old Greenwood golf courses.
Southside No.1 well	Water from this well is used to supply construction water for contractor use during the summer construction season.
<i>Wells Not Currently in Use</i>	
B well	Low in capacity well and the District does not intend to use this well in the future. However, they have not been abandoned in accordance with California State requirements and are therefore considered inactive.
Biltz well	Low in capacity well and the District does not intend to use this well in the future. However, they have not been abandoned in accordance with California State requirements and are therefore considered inactive.
Bingham Placewell	Low in capacity well and the District does not intend to use this well in the future. However, they have not been abandoned in accordance with California State requirements and are therefore considered inactive.
<i>Source: TDPUD, 2016</i>	



General Location of Golf Course Wells

- TDPUD Municipal Well
 - Northstar (NCSD) Municipal Well
 - CASGEM/TDPUD Well
 - Golf Course*
- Scale of Extraction Magnitude**
- Wells Extracting >2000 AF per Water Year
 - Wells Extracting >400 AF per Water Year
 - Wells Extracting <400 AF per Water Year
- Martis Valley Groundwater Basin
 - County Boundary
 - City Boundary

15-Mar-2018 - Z:\Projects\1610379_MartisValley\Working_Areas\Cadd\Figures for Annual Report_2018\Fig4-15.mxd - SMS

2 1 0 2
Miles

Martis Valley Alternative Plan Annual Report 2018
Nevada and Placer Counties, California

Truckee-Donner Public Utility District



MARTIS VALLEY GROUNDWATER BASIN
LOCATIONS OF GROUNDWATER EXTRACTIONS

MARCH 2018

Figure 4-15

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Distribution and Transmission

Pressure Zones: TDPUD's service area currently has 46 pressure zones with elevations ranging from 5,745 feet in the Martis Valley to 7,370 feet at the highest point in Tahoe Donner. Water pressure is measured in pounds per square inch (psi) and water pressures ranges from a high of about 200 psi to a low of about 20 psi. Approximate minimum and maximum ground elevations and static service pressures in the pressure zones are given in Table 4-23 (TDPUD, 2016).

Pressure Zone	Target HGL feet	Lowest Service Elevation, feet	Highest Static Service Pressure, PSI	Highest Service Elevation, feet	Lowest Static Service Pressure, PSI
6040	6040	5838	87	5927	49
6170	6170	5880	125	6050	52
Alder Creek	6610	6300	134	6440	74
Armstrong	6334	5959	162	6200	58
Bennett Flat	6352	6196	68	6225	55
Coldstream 6080	6080	5920	69	5930	65
DL-6124	6124	5940	80	6050	32
DL-6323	6323	5950	161	6245	34
DL-Northeast	6085	5940	63	5975	48
DL-Red Mountain	6200	6100	43	6110	39
DL-Wolfe	6220	6035	80	6140	35
Donner Trails	6160	5932	99	6005	67
Donner View	6894	6612	122	6806	38
Donner View Hydro	6990	6820	74	6890	43
Gateway	6040	5825	93	5990	22
Glacier	7500	7210	126	7370	56
Glenshire 1	6341	5880	200	6203	60
Glenshire 2	6163	5823	147	6038	54
Heidi Way	6815	6595	95	6645	74
Heights Hydro	6415	6183	100	6325	40
Hillside	6660	6357	131	6526	58
Icknield	6058	5840	94	5850	90
Innsbruck	6493	6157	145	6455	16
Lower Lakeview	6130	5820	134	6040	40
Lower Ski Run	7088	6850	103	6954	58

Lower Skislope	7015	6752	114	6830	80
Martinswoods	6360	6210	65	6255	45
Middle Skislope	7172	6800	161	7010	70
Palisades Hydro	6390	6180	91	6220	74
Pinnacle	6843	6588	110	6756	38
Pinnacle Hydro	6950	6752	86	6820	56
Ponderosa Palisades	6298	6025	118	6220	34
Prosser Heights	6338	6000	146	6180	68
Riverview	6020	5790	100	5875	63
Roundhill Hydro	6790	6618	74	6660	56
Sierra Meadows	6146	5880	115	6030	50
Sitzmark Hydro	6580	6435	63	6440	61
Soma Sierra	6286	6000	124	6200	37
Stockholm	6708	6395	135	6641	29
Town	6024	5745	121	5950	32
Trout Creek 6550	6550	6375	76	6420	56
Upper Lakeview	6230	5975	110	6100	56
Upper Ski Run	7193	No Customers	NA	No Customers	NA
Upper Skislope	7366	7010	154	7274	40
Waterloo	6071	5825	106	5876	84
West Palisades Hydro	6250	6100	65	6210	17

Source: TDPUD, 2016, UWMP

Pumping Stations: The District serves a region that ranges in elevation from less than 5,700 feet above sea level in Hirschdale to over 7,400 feet above sea level in the western end of the District located close to the crest of the Sierra Nevada mountains. The District uses 25 different pump stations to lift water to the 46 different pressure zones at different elevations throughout the service area. Within these 25 pump stations are a total of 66 pumps. The capacity of the pump stations is sufficient to satisfy present demands, but continued growth will require expansion at a future date (Brandis Tallman, 2015**).

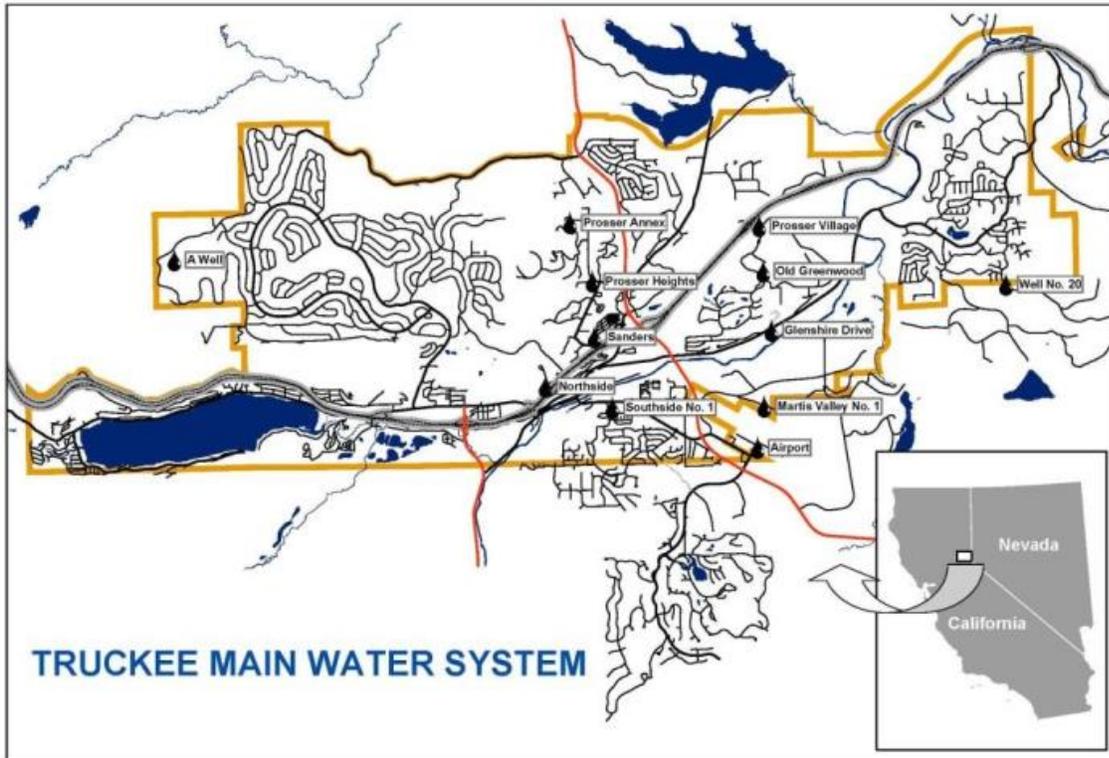
Pipelines: The final component of the Truckee Water System infrastructure is the piping network that transmits and distributes water throughout the service areas. The District has approximately 186 miles of pipelines (as of 2003) which are varied as to age, material type, size, condition and purpose. Pipeline size ranges from 2-inches to 24 inches in diameter, with most being either six or eight inches in diameter (TDPUD, 2003). The pipes are made of welded steel and are approximately 40 to 50 years old. There are pipe sections that are older than 50 years; others are less than a year old. Although a great majority of the pipeline system was installed after the 1960s, a small percentage of the pipelines are older, dating to the 1940s.

The distribution pipelines are mostly steel construction or ductile iron pipe (TDPUD, 2016, page 3-6). Other materials found in the piping network are galvanized iron, asbestos cement, ductile iron and polyvinyl chloride (PVC). The 2003 Facilities Replacement Plan noted that a few challenges with pipelines since many of the steel pipelines in the Tahoe Donner subdivision were not properly installed and have experienced premature failure. Additionally, in the Sierra Meadows area, high groundwater levels have caused accelerated corrosion (TDPUD, 2003). Pipeline replacement is recognized as a capital improvement project by TDPUD in its varied capital improvement plans as described in the financial section of this MSR.

Water Treatment Systems

Groundwater from the MVGB naturally has very good water quality which reduces the need for treatment. Each of the District’s active potable water wells are equipped with disinfection systems utilizing liquid chlorine. Additionally, the District operates water treatment systems at two wells - Northside and Hirschdale. The Northside treatment system removes excess levels of arsenic, and the Hirschdale well removes excess levels of arsenic, iron and manganese (Brandis Tallman, 2015). These disinfection and treatment systems allow all water supplied to potable water customers to remain in compliance with State and federal regulations. (TDPUD, 2016).

Figure 4-16: Map of Truckee Main Water System



Map provided courtesy of TDPUD

Water Storage

Storage Tanks: 33 potable water storage tanks providing a total storage capacity of approximately 9.5MG within the District (TDPUD, 2017b). Additionally, there are three non-potable water storage tanks. Water storage tanks are used to augment the capacities of the wells and pumping stations during short-term (hourly) peak demand periods and to store water for fire protection and emergencies. Of the 36 tanks, one is an elevated steel tank (water tower), one is a half-buried concrete tank, and the remaining 34 are steel tanks whose base rests on the ground. The combined storage capacity of these tanks is about 10.1 million gallons (Brandis Tallman, 2015). In 2003 there were 39 water storage tanks; however, three tanks are no longer in use (TDPUD, 2003). There are four privately-owned parcels on Somerset Drive (APNs 49-130-16, 49-130-15, 49-130-03, and 49-110-06) located adjacent to the PUD's boundaries and which may contain water pipes leading to nearby water tanks. Please see Appendix 16 for additional details on these four parcels.

Infrastructure Improvements

Given the high elevation mountain environment, the mechanics and hydraulics of water utility service is very complex and requires continual maintenance. Over the past few years, TDPUD has conducted several infrastructure improvements including pipeline replacement and Wire to Water efficiency programs with a reduction in total energy usage, installation of water meters, the SCADA replacement project and on-going conservation programs, and other capital projects" (TDPUD Budget, 2017).

Water facilities do require regular maintenance and replacement. Most of this infrastructure has an engineered useful life. The types of regular maintenance required includes periodic cleaning and painting of storage tanks, leak re pair and flushing of pipelines, and motor repair of pump stations and wells (TDPUD, 2003). This MSR contains a more detailed description of the TDPUD Capital Improvement Plans on page 4-76.

Water Conservation

In response to periodic natural droughts, TDPUD customers implement water conservation practices. TDPUD has a water conservation program which is described in Appendix 13.

Recycled Water

TDPUD does not currently have recycled water¹⁷ or gray-water program. However, non-potable water is used to irrigate local golf courses and to make snow. However, the federal Settlement

¹⁷ Nevada LAFCO's 2018 MSR for East County Sanitation Services describes the Truckee Tahoe Sanitation Agency, which processes sewage from the Martis Valley and surrounding areas along with sewage imported from North Lake Tahoe and the communities of Kings Beach, Tahoe City, Alpine Meadows, and Olympic Valley. TTSA's wastewater treatment plant was completed in 2009. T-TSA does recycle treated wastewater for snow-making at ski resorts.

Act limits the amount of water that is recycled in the Truckee River Watershed due to concerns about reduction in return flows to the River (TDPUD, 2016).

Water Quality

Within the Truckee area, water quality is generally described in two forms:

- Surface water quality
- Groundwater quality

Surface water quality generally does not impact TDPUD nor is it significantly influenced by TDPUD's water system since TDPUD relies upon groundwater. Nevertheless, for purposes of providing background information, a brief summary of surface water quality issues are described in this paragraph. The quality of drinking water is regulated by a complex suite of local, state, and federal regulations as described in Appendix 9: Regulatory Requirements - Municipal Water. The California Water Quality Control Board's adopted Water Quality Control Plan for the Lahontan Region (Basin Plan) specifies that "the discharge or threatened discharge, attributable to human activities, of solid or liquid waste materials; including soil, silt, clay, sand, and other organic or earthen materials to lands within the 100-year floodplain of the Truckee River or any tributary to the Truckee River, is prohibited." Additionally, the Lahontan Regional Water Quality Control Board (RWQCB) has included the Truckee River (Cal water Watershed No. 63510010) in the 2006 Clean Water Act (CWA) Section 303(d) List of Water Quality Limited Segments requiring total maximum daily loads (TMDL). A TMDL is a quantifiable assessment of potential water quality issues, contributing sources, and load reductions or control actions needed to restore or protect bodies of water. In May 2008, the Lahontan RWQCB published an amendment to its Water Quality Control Plan (or Basin Plan) that establishes total maximum daily loads for the Middle Truckee River watershed. The amendment to the Basin Plan establishes the following TMDL for the Truckee River measured at Farad: Suspended sediment concentrations shall be reduced to a target value for the annual 90th percentile that is less than or equal to 25 milligrams per liter within 20 years (Lahontan RWQCB 2008 as cited in Nevada LAFCO 2013a SOI DEIR). Additional detail regarding surface water quality is provided on the Truckee River Watershed Council's website at: <https://www.truckeeriverwc.org/>.

TDPUD's drinking water quality is correlated with the quality of its water source, which is groundwater in this case. The quality of the water taken from the MVGB is generally considered excellent. TDPUD's infrastructure improvements and other surface work can have a small risk of affecting water quality; although TDPUD generally mitigates this risk. Groundwater quality in the MVGB is generally of good quality and is monitored as part of the TDPUD's agreement with the California Department of Public Health. The types and amounts of elements and ions in the Martis Valley groundwater are closely associated with the geochemistry of the geologic units in which the water resides. Within the Martis Creek watershed, the underlying geology includes andesites. These intermediate rocks and their regolith are all classified as silicates. GeoTrans (2000) presented their assessment of groundwater quality issues from water samples

collected from four wells in the vicinity of the planned Eaglewood subdivision in the Placer County area of Martis Valley. In the report, the concentrations for total dissolved solids, calcium, magnesium, sodium, potassium, sulfate, chloride, hydrogen carbonate ions, iron, arsenic, manganese, radon, and nitrates as nitrogen were tabulated and analysis for total coliform bacteria was also provided. Test results showed that these elements or compounds were detected in the ground water samples, but at concentrations below maximum contaminant levels (MCLs) established by California Drinking Water Standards. The GeoTrans report pointed out that arsenic and radon concentrations in the local ground water are a water quality concern in Martis Valley. In the past, TDPUD has periodically removed wells from municipal service due to water quality issues as described in LAFCO's 2005 MSR. Several of these wells have been re-purposed for irrigation water to support local golf courses and other uses (Nevada LAFCO, 2005).

The U.S. Geological Survey (USGS) conducted groundwater monitoring activities in the MVGB in cooperation with the California State Water Resources Control Board (SWRCB) as part of the California Groundwater Ambient Monitoring and Assessment (GAMA) Program. During summer 2007 USGS sampled 14 wells in the MVGB for a range of constituents and found that the concentrations of most constituents were below drinking-water thresholds, with two exceptions:

- a) concentrations of naturally occurring arsenic were above the Maximum Contaminant Level (MCL) in 4 of the 14 wells sampled, and
- b) manganese concentrations were elevated above the MCL in one well.

Arsenic levels above the MCL have also been reported by the TDPUD; however, this issue has been addressed operationally by the TDPUD and drinking water standards are currently being satisfied (TDPUD et. al., 2016).

In addition to arsenic and manganese, radon has historically been a concern in the MVGB (Nevada LAFCO, 2005). Radon isotope-222 is a colorless, odorless, and tasteless radioactive gas that results from the natural decay of uranium. Uranium and radon are present in varying amounts in rocks and soils, and radon is present in background concentrations in the atmosphere. Current evidence indicates that increased lung cancer risk is directly related to radon-decay products (Nevada LAFCO 2013a SOI DEIR). Preliminary announcements from the EPA regarding regulations for radon have indicated that the maximum allowable radon could range from 300 to 4,000 picocuries (pCi) per liter as shown in Appendix 18 (EPA, 2018). The new standards are considered likely to have minimal effect on TDPUD's existing wells as the proposed methods of mitigation would require minimal, if any, infrastructure additions. At this time, no wells are anticipated to be removed from service due to potential new radon standards (Nevada LAFCO, 2005).

In 2014, California moved responsibility for drinking water programs from the California Department of Health to the Water Resources Control Board. Every community water supplier must provide an annual report, called a Consumer Confidence Report (CCR), to its customers and these reports are available on-line at https://www.waterboards.ca.gov/drinking_water/programs/. The report provides

information on local drinking water quality, including the water’s source, contaminants found in the water, and how consumers can get involved in protecting drinking water. TDPUD posts its CCR on its website at <<https://www.tdpud.org/departments/water/water-quality>>

As part of this MSR analysis, the consultants queried three on-line water quality databases:

- CA Drinking Water Watch
- California Integrated Water Quality System Project (CIWQS) database
- Environmental Working Group's Tap Water Database

The CA Drinking Water Watch database is available on-line at: <<https://sdwis.waterboards.ca.gov/PDWW/index.jsp>>. The TDPUD has two water systems listed in this database:

- Truckee Donner Main Water System (CA2910003)
- Truckee Donner Hirschdale Water System (CA2910010)

This database shows that TDPUD has two CCR readily available for the year 2017, one each for the Main water system and the Hirschdale water system. For the water quality constituents listed in the CCR, all were within acceptable parameters. In the Hirschdale water system, the level of radon is listed at 590 picocuries (pCi) per liter which is above the proposed draft EPA standard of 300 pCi per liter. The State of California does not have an MCL for Radon. The EPA has an advisory MCL of 4000 pCi/L for Radon and the Hirschdale well’s level is well below the existing advisory level.

For the Main water system, the CA Drinking Water Watch database reports a total of two water quality violations, which were received during the years 2009 for arsenic and 1996 for coliform as shown in the Figure below.

Figure 4-17: Copy of CA Drinking Water Watch Database Results for TDPUD Main Water System							
<u>Individual Violations</u>							
Violation No.	Status	Violation Type	Violation Name	Analyte Code	Analyte Name	Water System Facility State Asgn ID	Water System Facility Name
2009-9621002	V	02	MCL, AVERAGE	1005	Arsenic	007	Glenshire Drive Well
1996-9621001	V	22	MCL (TCR), MONTHLY	3100	Coliform (TCR)	Null	null
<i>Total Number of Records Fetched from Database -=2</i>							

For the Hirschdale Water System, the CA Drinking Water Watch database also reports a total of two water quality violations, both occurring in the year 2007 for arsenic as shown in the Figure below.

Figure 4-18: Copy of CA Drinking Water Watch Database Results - TDPUD Hirschdale Water System							
Individual Violations							
Violation No.	Status	Violation Type	Violation Name	Analyte Code	Analyte Name	Water System Facility State Asgn ID	Water System Facility Name
2007-721002	V	02	MCL, AVERAGE	1005	ARSENIC	Null	Null
2007-721001	V	02	MCL, AVERAGE	1005	ARENIC	Null	Null
<i>Total Number of Records Fetched from Database = 2</i>							

The CIWQS database is available on-line at: <<https://www.waterboards.ca.gov/ciwqs/>>. Although this database query showed that TDPUD has applied for several NPDES permits and 401 certifications, there are no records of any water quality issue associated with the TDPUD drinking water system.

Environmental Working Group's (EWG) Tap Water Database is available on-line at: <<https://www.ewg.org/tapwater/>>. EWG's drinking water quality report shows results of tests conducted by TDPUD and provided to the Environmental Working Group by the California State Water Resources Control Board, as well as information from the U.S. EPA Enforcement and Compliance History database (ECHO). The query result shows that for the latest quarter assessed by the EPA (July 2017 - September 2017), tap water provided by TDPUD was in full compliance with federal health-based drinking water standards. The EWG database also compares laboratory test results to more stringent "health guidelines" which are advisory and non-enforceable and shows that TDPUD's main water system has eight contaminants detected above health guidelines as listed below:

- Arsenic
- Bromodichloromethane
- Chloroform
- Chromium (hexavalent)
- Dibromochloromethane
- Manganese
- Total trihalomethanes (TTHMs)
- Trichloroacetic acid

Six of these cases show contaminant levels below state and federal averages. Two cases (arsenic and manganese) exceeded state and federal averages. Arsenic was detected in a well at 3.17 parts per billion (ppb). Although 3.17 ppb is below the legal limit of 10 ppb, it is above the health guideline of 0.004 ppb for as defined by the California Office of Environmental Health Hazard Assessment for public health goals. 3.17 ppb also exceeds state and federal averages as reported by EWG. In the year 2015, manganese was detected in a well at 230 ppb. There do not appear to be state or federal statutory legal limits for manganese. However, the 230

ppb exceeds the 100-ppb health guideline suggested by Minnesota as a risk assessment advisory level, a non-enforceable guideline. 230 ppb is also above state and federal averages as reported by EWG. Database query results for the Hirschdale water system were similar to that of the Main water system with several exceptions where levels exceed non-enforceable health guidelines including arsenic level at 11.6 ppb, bromodichloromethane at 5.6 ppb, chloroform at 12.0 ppb, manganese at 115 ppb, and trichloroacetic acid at 6.0 ppb (EWG, 2019).

Challenges in Provision of Water Services

Like many water districts in California, events such as earthquakes, fires, or major equipment failures could cause water supply shortages. Such water supply shortages are expected to be relatively short in duration, but may occur without warning. Additionally, water supplies may be impacted across the state by changing hydrologic and climatic conditions, which will affect reservoir management and storage both within TDPUD and in the greater Truckee River watershed area. This changing hydrology will also impact local surface and groundwater resources on the eastern slope. Furthermore, future regulatory changes will impact agencies to varying degrees depending on location and environmental issues. Balancing water supply and water demand will remain a dynamic issue. The U.S. Bureau of Reclamation manages water supply in the Truckee River Basin and this agency has undertaken a number of studies to evaluate the degree to which water supply and demand may be impacted by future changes in climate. This includes the Truckee River Basin Study, as well as funding researchers at the Desert Research Institute to develop an integrated groundwater, surface water, and climate change model of the Martis Valley Groundwater Basin. Water quality in the Hirschdale water system meets existing state and federal legal limits, but in some cases exceeds other less stringent and non-enforceable health guidelines. If legal water quality limits get more stringent, then the cost of compliance with water quality regulations could increase.

The District has identified the following factors that influence the PUD's ability to supply and/or deliver water to their customers.

- The District's ability to manage an effective workforce and develop a succession plan for both management and operations personnel in a challenging market
- Effective and fiscally responsible management of facilities operation and maintenance programs
- Continued management and funding of the District's capital improvement plan, balancing projects designed to address new growth and aging infrastructure
- Establishment of an effective water rate structure to appropriately fund fixed and variable costs, in addition to long term goals outlined in the District's master plan.
- The District is continually monitoring the expansion of authority and the increased restrictions associated with California regulatory agencies under the umbrella of the California State Water Resources Control Board (SWRCB) and Title 22 of the California Code of Regulations. The current trend of increasing regulatory requirements associated with water quality maximum contaminant levels (MCL), and the additional

of previously unregulated contaminants create potentially challenging groundwater supply management in the future (TDPUD, 2017b).

Water Service Adequacy

The District currently provides sufficient water service to its existing customers. Available reports for the TDPUD's Truckee water systems generally indicate:

- Source capacity is adequate to meet maximum day demands
- Storage capacity is adequate in accordance with Section 64554 of the California Waterworks Standards
- Water deliveries meet all current primary drinking water standards
- Water systems appear to be operated in professional and conscientious manner

Water Supply Increase Options

At some point in the future, if the population of the District continues to grow and the demand for municipal water increases, implementation of an additional water supply supplemental to the MVGB may be necessary to meet District-wide demands. Such potential future supplemental water could aid during a future critical drought period. However, choices for a new water supply could be limited by TROA and other factors and may not be feasible when infrastructure and other costs and constraints are considered. The TDPUD is currently exploring the prospects of additional groundwater well source development and storage capacity (TDPUD, 2017b). The Town of Truckee and the TDPUD should continue to work together to monitor potential future population growth in relation to future water demands and supply.

4.6: FINANCIAL ABILITY TO PROVIDE SERVICES

LAFCo is required to make a determination regarding the financial ability of the Truckee Donner Public Utility District to provide public services. This Chapter provides an overview of financial health and provides a context for the financial determinations. The audited Consolidated Annual Financial Statement (CFS) from the District for the fiscal years 2015, 2016, and 2017 are the primary source of information for this Chapter. Based on recent recommendations from the Little Hoover Commission, this determination on the financial ability to provide services is based upon several key financial performance indicators that are shown in tables in the following pages.

In California, special districts are classified as enterprise or non-enterprise districts, based on their source of revenue:

- Enterprise districts: Finance of district operations is via fees for public service. Under this model, the customers that consume goods or services such as drinking water or raw water, sewage disposal, or electricity, pay a fee. Rates are set by a governing board and there is a nexus between the costs of providing services and the rates customers pay. Sometimes enterprise district may also receive property taxes which comprise a portion of their budget.
- Non-enterprise districts: Districts which receive property taxes are typically classified as non-enterprise districts. Services that indirectly benefit the entire community, such as flood or fire protection, community centers, and cemetery districts are often funded through property taxes.

TDPUD is an enterprise district, charging fees for water supply, water treatment, and distribution services. TDPUD does not collect property taxes in relation to water service.

TDPUD operates its electric and water service operations separately. The District's biennial financial statements describe designated accounts that show the electric and water utilities being accounted for separately and these details are provided in the supplementary tables located at the end of the financial statements. Other important financial tables such as the Consolidated Statement of Net Position located in the beginning of the financial statements reflect the combined electric and water operations of the District. Additionally, the District's 2018 and 2019 budgets show separate budgeted amounts for the electric and water operations. Currently, TDPUD's budget for years ending December 31, 2018 and 2019 (FY18 and FY19) are designed to reflect past performance, current requirements, and future opportunities and risks. The budgets for both the District's Electric Utility and Water Utility are balanced, meaning the revenue and transfers from reserves are equal to the sum of expenses, debt service, capital projects, and transfers to reserves (TDPUD Budget, 2017). For the water operations, one of the District's goals for this year is to "Control the growth of the District's discretionary-operational spending to a rate less than the rate of inflation" (TDPUD, 2017).

The District has "blended component units"¹⁸ consisting of organizations whose respective governing boards are comprised entirely of the members of the District's Board of Directors (TDPUD, 2017). These organizations are reported as if they are a part of the District's operations. The entities are legally separate, however, in the case of the Truckee Donner Public Utility District Financing Corporation, financial support has been pledged and financial and operational policies may be significantly influenced by the District. The following is a description of the District's blended component units:

¹⁸ A blended component unit is defined as a unit which has the "substantively the same governing body" as the primary government agency and the funds of a blended component unit have the same financial reporting requirements as a fund of the primary government. Please refer to https://www.gasb.org/cs/ContentServer?cid=1176158034864&d=&pagename=GASB%2FPronouncement_C%2FGASBSummaryPage for additional information.

- Truckee Donner Public Utility District Financing Corporation is a legal entity that was created to issue and administer Certificates of Participation on behalf of the District.
- Truckee Donner Public Utility District Community Facilities District No. 03-1 (Old Greenwood¹⁹) is a legal entity created to issue special tax bonds to finance various public improvements needed to develop property located within Old Greenwood. (See note 7).
- Truckee Donner Public Utility District Community Facilities District No. 04-1 (Gray's Crossing) is a legal entity created to issue special tax bonds to finance various public improvements needed to develop property located within Gray's Crossing. (See note 7).

For the two Community Facilities Districts listed above (Old Greenwood and Gray's Crossing), TDPUD's role is to administer the Districts. Although the two Community Facilities Districts carry investor debts, they do not present a financial risk to the TDPUD (Personal communication, Kuhlemier, April 26, 2019). TDPUD has two parts to its financial statements:

- 1) Primary Government, and
- 2) Consolidated

Supplemental information is also included in financial documents; however, separate standalone financial statements are not available for the blended component units. Unless noted, disclosures relating to the component units are the same as for the District (TDPUD, Financial Statement, May 2018). Since the District's consolidated financial statement considers the electric utility, water utility, Gray's Crossing sub-unit, and the Old Greenwood sub-unit, some of the information presented in this financial section does include information for these other services, because the data cannot easily be separated from the other various components. Overall, the financial analysis presented in the following pages focuses primarily on water service.

Financial Policies & Transparency

The District prepares and approves a budget with a two-year timeframe, which includes a capital improvement budget for those two years. It is TDPUD's practice to present a Treasurer's Report of Fund Balances to the Board of Directors during the regular monthly meeting. The fiscal year runs concurrently with the calendar year, beginning on January 1 and ending on

¹⁹ TDPUD does receive taxes in two special geographic areas: Old Greenwood District and Gray's Crossing District. All taxable property within the Old Greenwood District pays TDPUD an ad valorem property tax in an amount sufficient to pay the yearly principal and interest on the Special Assessment District Tax Bonds. (See Consolidated Financial Statement for more information). In the Gray's Crossing District, the District levied an ad valorem property tax on all taxable property beginning in 2005. TDPUD uses these funds to pay the yearly principal and interest on the Special Assessment District Tax Bonds. (See Consolidated Financial Statement for more information).

December 31. The current budget and the past three years of Financial Statements are available to the public via the District's website²⁰.

TDPUD has a District Code that outlines policies and procedures and financial policies are described in Title 3 of the District Code. TDPUD has several goals regarding finances as listed below:

- Objective #6: Manage the District in an effective, efficient and fiscally responsible manner.
- Goal 6.4 Control the growth of the District's discretionary-operational spending to a rate less than the rate of inflation.
- Goal 6.5 Review and update the Financial Goals policy to achieve a stable financial condition to include planning, revenue, debt, and reserve goals.
- Goal 6.6 Develop appropriate financial procedures to assure responsible financial management (TDPUD Budget, 2017).

Additionally, TDPUD has 24 specific accounting policies listed in its consolidated financial statements and numbered "C-Z". A few key accounting policies include:

- TDPUD's investment policy which allows for investments in instruments permitted by the California Government Code and/or the investments permitted by the trust agreements on District financing. The District's investment policy contains provisions intended to limit the District's exposure to interest rate risk, credit risk, and concentration of credit risk.
- Restricted assets are assets restricted by the covenants of long-term financial arrangements or other third-party legal restrictions. Restricted assets are used in accordance with their requirements and where both restricted and unrestricted resources are available for use, restricted resources are used first and then unrestricted as they are needed.
- TDPUD's Capital asset policy states that depreciation on capital assets is calculated using the straight-line method over the estimated useful lives of the assets.

Readers are invited to view the entire list of TDPUD's accounting policies in the consolidated financial statements.

The District's Purchasing Policy is defined in Title 3 of the District Code. Part of the Purchasing Policy is the Local Preference Procurement Policy (incorporated into District Code Section No. 3.08.005) and it encourages local businesses to provide goods and services to the District in order to maintain a healthy local economy, to increase local competition, and to lower core costs of goods and services. Procurements eligible for local consideration include commodities or equipment; public works contracts, other service contracts, special services, and consulting

²⁰ TDPUD budget is available at: <https://www.tdpud.org/about-us/budgets-and-financials>

services up to specified dollar amounts. This one-page policy document is available on the TDPUD website.

TDPUD's financial statements are prepared in accordance with generally accepted accounting principles (GAAP). The Government Accounting Standards Board (GASB) is responsible for establishing GAAP for state and local governments through its statements and interpretations. The District uses the accrual basis of accounting (TDPUD, Financial Statement, 2018). The most recent independent auditor's report was prepared for Fiscal Year ending December 31, 2016 and 2017 and dated May 25, 2018 and was attached to the District's Consolidated Financial Statements. The audit found that the information is fairly stated, in all material respects, in relation to the basic financial statements as a whole (TDPUD, Financial Statement, 2018). Financial administration is led by Regina Wise, Finance & Accounting Manager, who also serves as District Treasurer. The District Treasurer makes regular reports to the Board of Directors regarding Fund Balance and this information is available to the public via the meeting agenda packet.

Transparency with salary data is an important attribute for special districts in California. The Truckee Donner Public Utility District provides competitive compensation and a benefits package to full-time, regular employees. Employee wage scale by bargaining unit and the unrepresented employee wage scale are available on the PUD website. Additionally, the Truckee Donner Public Utility District forwards a report to the California State Controller for Government Compensation in California per Government Code Section 53891.

Indicator	Score	Notes
Summary financial information presented in a standard format and simple language.	✓	The Consolidated Financial Statement and budgets are prepared for a two-year timeframe and they clearly and transparently present financial information.
District has a published policy for reserve funds, including the size and purpose of reserves and how they are invested.	✓	TDPUD reserve policy is incorporated into Title 3 of the District Code which is posted on the District website.
Other financing policies are clearly articulated.	✓	TDPUD's consolidated Financial Statement contains a list of its accounting policies. Additionally, the District Code describes its purchasing Policy, with specific procedures for purchases and procurement practices. The District Code is readily available on the PUD's website.
Compensation reports and financial transaction reports that are required to be submitted to the State Controller's Office are posted to the district website.	✓	Employee wage scale by bargaining unit and the unrepresented employee wage scale are available on the PUD website. Required reports are sent to the California

		State Controller for Government Compensation.
Key to score: ✓= Above average (compared to similar water districts) △= Average ○= Below average		

Revenues

TDPUD has two basic types of revenue:

- Operating revenues consist primarily of charges for services.
- Non-operating revenues and expenses are related to financing and investing type activities.

The District has multiple sources of revenue including: sales to customers, interdepartmental sales, standby fees, other investment income, and gain on disposition of assets.

In 2017, TDPUD’s total revenue for the water utility was \$12.3 million as shown in Table 4-25 and the largest source of revenue in 2017 was water sales to customers as shown in Figure 4-19, below. Water revenues increased 2% in 2017 and this was primarily due to a 3% water rate increase in 2017 that was offset by decreased residential consumption. The Water Utility also received a small reimbursement of expenses from FEMA and CalOES associated with the extreme winter storms in 2017. Non-operating revenues including Investment income and gains on the disposition of assets for the water utility were \$230,999 in 2017, compared to \$267,722 in 2016 (TDPUD, Dec 31, 2017 and 2016). During drought, customers typically enact water conservation actions and utilize less water. Since less water is sold, TDPUD may experience slightly lower revenues during drought years.

Budgeted revenue for the Water Utility includes the maximum 3% rate increase for both FY18 and FY19 as detailed in this MSR’s Rate section on page 4-86. The Water Utility utilizes this funding to improve infrastructure such as water meters (TDPUD Budget, 2017).

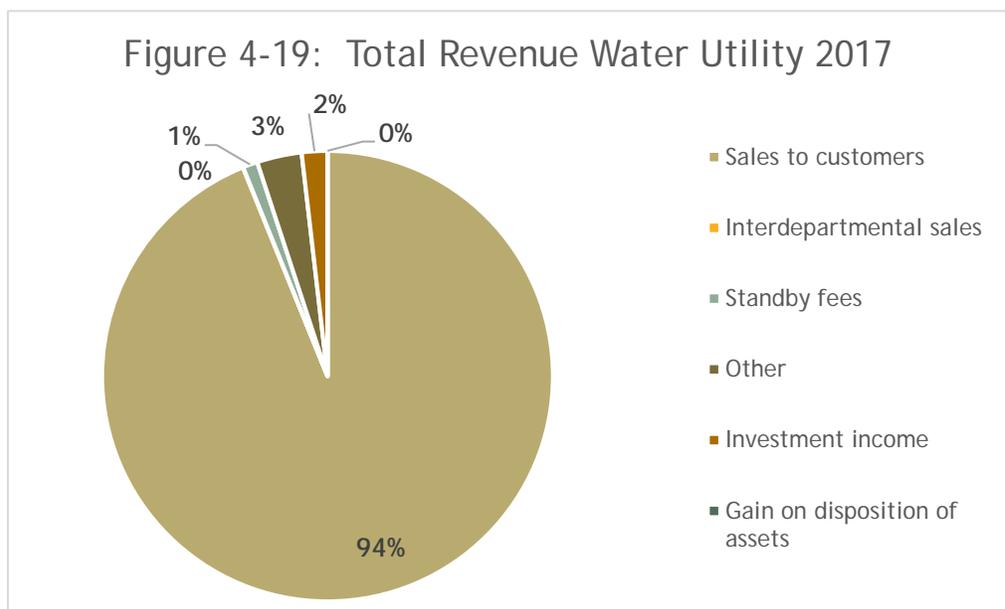


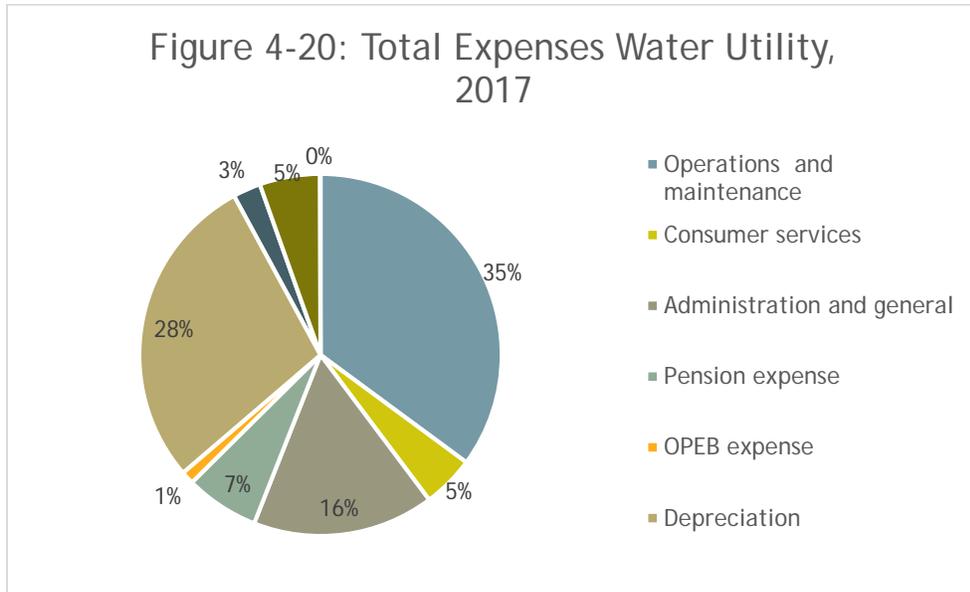
Table 4-25: Statement of Revenues, Expenses and Changes in Net Position

CONSOLIDATING STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION						
For the Year Ended December 31, 2017	Component Units					Totals
	Electric Operations	Water Operations	Gray's Crossing	Old Greenwood	Eliminations	
OPERATING REVENUES						
Sales to customers	\$ 22,660,258	\$ 11,801,888				\$ 34,462,146
Interdepartmental sales	1,148,845	2,292			-1,151,137	
Standby fees	21,530	133,440				154,970
Cap and trade proceeds	1,140,372					1,140,372
Other	2,736,115	403,229			-561,479	2,577,865
Total Operating Revenues	27,707,120	12,340,849			-1,712,616	38,335,353
OPERATING EXPENSES						
Purchased power	11,327,300					11,327,300
Operations and maintenance	4,997,232	4,835,623			-1,151,137	8,681,718
Consumer services	1,661,708	640,793				2,302,501
Administration and general	2,522,038	2,231,453			-561,479	4,192,012
Pension expense	1,361,766	907,844				2,269,610
OPEB expense	238,410	158,940				397,350
Depreciation	2,624,534	3,907,106				6,531,640
Total Operating Expenses	24,732,988	12,681,759			-1,712,616	35,702,131
Operating Income	2,974,132	-340,910				2,633,222
NON-OPERATING REVENUE (EXPENSES)						
Special tax revenue		-		683,217		3,342,077
Investment income	163,323	230,654	230,654	4,196		420,490
Interest expense	-2,951	-743,045	-1,716,270	-405,818		-2,868,084
Amortization	-27,261	-5,784	-5,205			-38,250
Other non-operating revenues				4,479		42,057
Other non-operating expenses				-	-26,377	-26,377
Gain (loss) on disposition of assets	7,193	345	345			7,538
Total Non-Operating Expenses	140,304	-517,830	-517,830	259,697		879,451
Income Before Contributions	3,114,436	-858,740	997,280	259,697		3,512,673
CAPITAL & OTHER CONTRIBUTIONS, net						
Capital Contributions	946,717	1,150,111				2,096,828
Intercompany Debt Service - Pension Sidefund	307,420	307,420				
Total Capital and Other Contributions, net	1,254,137	842,691				2,096,828
CHANGE IN NET POSITION	4,368,573	-16,049	997,280	259,697		5,609,501
NET POSITION - Beginning of Year	51,738,290	61,491,648	-24,819,674	-9,162,122		79,248,142
NET POSITION - END OF YEAR	\$ 56,106,863	\$ 61,475,599	-23,822,394	-8,902,425		84,857,643

Source: TDPUD Financial Statement, FY: 2017.

Expenses

In FY 2017, total expenses (including both operating and non-operating) were almost \$13.8 million for the water utility. The largest expense was water operations and maintenance at \$4.8 million (35%) and the second largest expense was depreciation at \$3.9 million (28%) as detailed in Table 4-25 above and shown in Figure 4-20, below.

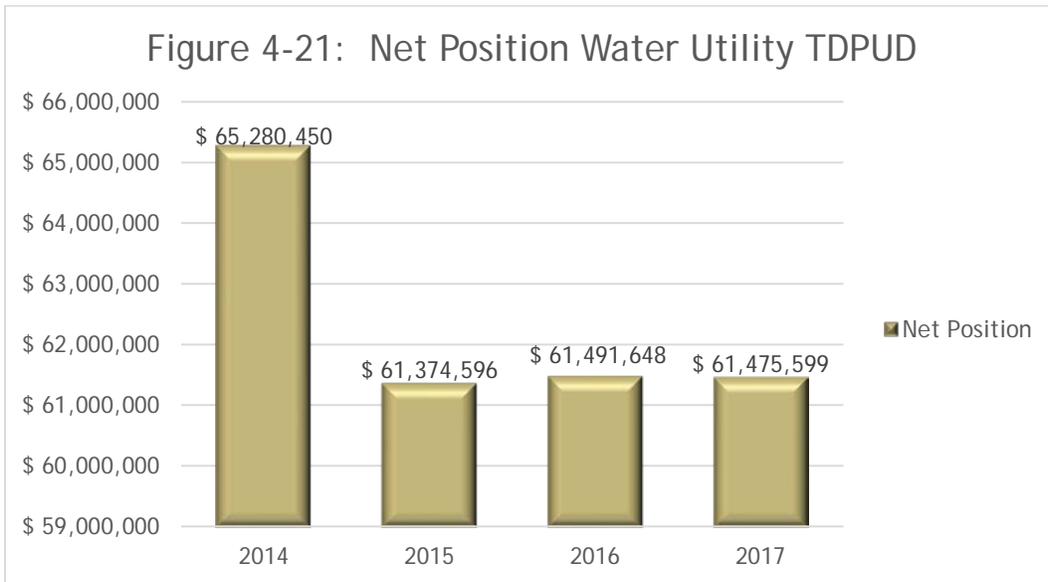
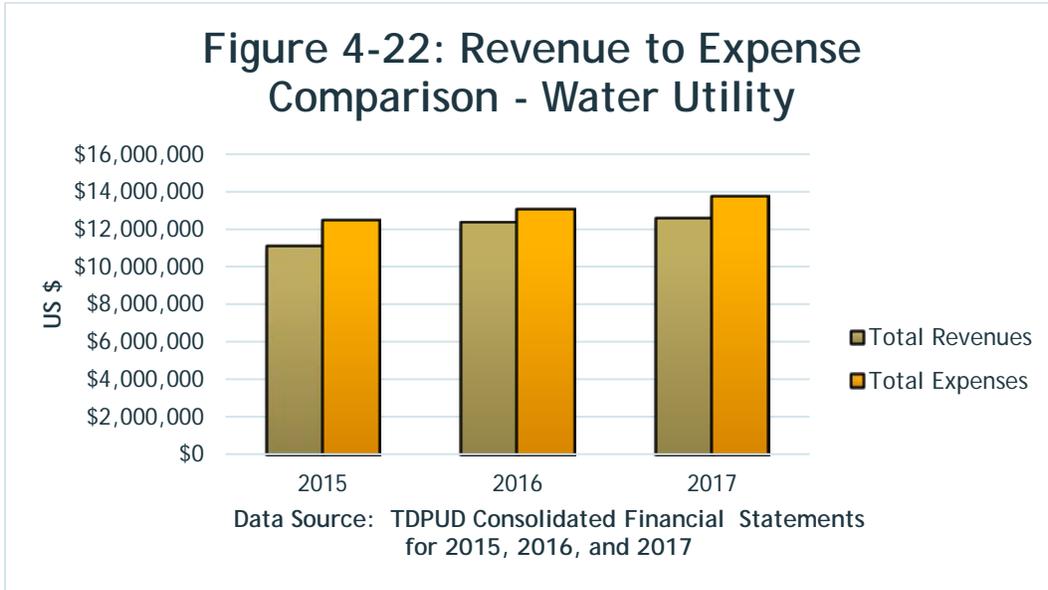


Source: TDPUD, 2018

A comparison of annual total revenue to total expenses, as provided in Figure 4-20 (next page) shows that annual expenses exceeded revenues in each of the three years studied (i.e. 2017, 2016, and 2015). Expenses associated with capital improvement projects contributed to the expenditure totals during these years and contributions from the reserve funds were used to offset the difference. Capital improvements during this timeframe included projects such as ponderosa palisades pump, meter replacement, water main replacement, water tank painting, vehicle replacement, information technology, SCADA reliability, various IT projects, water SCADA replacement. (Please see the section entitled “Capital Improvement Plan” on page 4-76 of this MSR for more information on capital improvements.) This indicates that having sufficient reserve funds is important to TDPUD to help it fund capital improvement projects and to help it weather the economically lean years. Please also see the discussion of rates presented on

page 4-85 in this chapter. TDPUD’s per capita expenditures amounted to \$726 per permanent resident in 2016. Average per acre expenditures amounted to \$448 per acre in 2016²¹.

Figure 4-20: TDPUD Total Revenues & Expenditures



Data Source: TDPUD Consolidated Financial Statements for 2015, 2016, and 2017

²¹ For comparative purposes, in 2018 LAFCO’s MSR for the Truckee Sanitary District (TSD) found that TSD’s per capita expenditures amounted to \$521 per permanent resident in 2016. TSD’s average per acre expenditures amounted to \$357 per acre in 2016.

The Net Position for the water utility did decline from 2014 to 2015 as shown in Figure 4-23. However, it has remained stable since then.

Summary Scores Revenues, Expenditures, and Net Position

Table 4-26: Summary of Indicators Revenues, Expenditures, and Net Position		
Indicator	Score	Notes
Revenues exceed expenditures in 50% of studied fiscal years	△	Total revenue was less than the total expenditures in each of the three study years. Capital contributions were made to fund capital improvement projects during this timeframe and it is recognized that capital improvement projects are expensive and necessary. Many water districts in California are in a similar situation.
Increases or decreases in net position	△	Changes to the Net Position are shown in Table 4-25, to be highly variable. However, the decline in Net Position of -\$3.9 million in FY2014 to 2015 was predominately due to <i>Period Adjustment per Implementation of GASB 68</i> .
Key to score: √= Above average (compared to similar water districts) △= Average ○= Below average		

Capital Improvement Plan

TDPUD’s Capital Improvement Plan for the water utility is embedded into four documents: 1) Water Rate Study Update, June 2015 by HDR Consultants, 2) the 2015 Urban Water Management Plan, 3) page 45 in the District’s budget as shown in Table 4-28, and 4) the TDPUD 2003 Facilities Replacement Plan. Since TDPUD’s service area encompasses over forty-six square miles, experiences cold winter temperatures, and has an elevation change from 5,800 feet to 7,500 feet, the water infrastructure is complex. Existing water infrastructure includes 13 wells, 218 miles of pipeline, 36 storage tanks, and 24 pump stations. The TDPUD water department/utility aims to control the operating costs associated with maintenance, repair and replacement of infrastructure in order to minimize future rate increases (TDPUD Budget, 2017).

The 2015 UWMP identifies several maintenance and capital improvements that will minimize pressure loss, improve fire flow, and correct system deficiencies including continued installation of water meters, replacement of aging pipelines, monitoring for leaks. With these future infrastructure projects, the District expects water losses to decrease in future years (TDPUD, 2016). During FY18 and FY19, TDPUD’s Water Utility capital improvement program will continue with planned system replacement (i.e. capital projects), installation of water meters, the SCADA replacement project, and on-going water conservation programs as shown in Table 4-27 (TDPUD Budget, 2017). The 2018 budget for the Water Department forecasts capital expenditures for FY18 and FY19 in the amount of \$2,695,309 and \$3,220,043 respectively as shown in Table 4-27, below. For capital expenditures, \$2,391,626 and \$2,640,205 will be paid by rates each year. The remaining costs will be paid from reserve funds (TDPUD Budget, 2017). Additional capital improvement projects are forecasted out to the year 2024 as shown in Table 4-27, below.

Table 4-27: Summary of the Capital Improvement Projects

Table 1 – 1 Summary of the Capital Improvement Projects (\$000s)										
Project Description	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Capital Projects										
SCADA Replacement Project	\$587	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SCADA Site Security Camera Project	84	0	0	0	0	0	0	0	0	0
SCADA Operations Center	8	0	0	0	0	0	0	0	0	0
Water Meters	450	252	103	106	109	113	116	119	123	123
Vehicle Replacement	96	170	175	180	186	191	197	203	209	209
Pipeline Replacement	1,053	1,200	1,236	1,273	1,311	1,351	1,391	1,433	1,476	1,520
Add'l Pipeline Replacement	0	600	618	637	400	675	696	716	738	694
Wells	0	0	0	0	0	0	0	700	900	900
Tanks	0	100	103	106	109	113	116	119	123	123
Pump Station	0	300	309	318	328	338	348	358	369	369
Misc. IT	0	400	408	416	424	433	442	450	459	459
Northside Well Building Replacement	369	0	0	0	0	0	0	0	0	0
Digital Media Extension	6	0	0	0	0	0	0	0	0	0
Total Capital Projects	\$2,653	\$3,022	\$2,952	\$3,037	\$2,868	\$3,213	\$3,305	\$4,100	\$4,397	\$4,397
Less: Outside Funding										
Operating Cash Fund	\$630	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital Reserve Funded	525	0	0	0	0	0	0	0	0	0
Facility Fee Fund	0	0	0	0	0	0	0	0	0	0
Meter Replacement Reserve	450	152	0	0	0	0	0	0	0	0
Vehicle Replacement Fund	96	170	175	180	186	191	197	203	209	209
New Debt	0	0	0	0	0	0	0	0	0	0
Total Outside Funding	\$1,701	\$322	\$175	\$180	\$186	\$191	\$197	\$203	\$209	\$209
Rate Funded Capital	\$952	\$2,700	\$2,777	\$2,856	\$2,682	\$3,022	\$3,108	\$3,897	\$4,188	\$4,188

**Source for Table 4-27, above: Water Rate Study Update, June 2015 by HDR Consultants.

Table 4-28: TDPUD Capital Improvement Project List

WATER CAPITAL PLAN

<u>SOURCE OF FUNDS</u>		<u>SOURCE OF FUNDS</u>	<u>BUDGET FY18</u>	<u>BUDGET FY19</u>
Operations (OP)	OP	\$	2,391,626	\$ 2,640,205
Vehicle Reserve Fund (VR)	VR		-	429,838
Meter Reserve (MR)	MR/OP		303,681	150,000
Operating Reserve Fund (OR)	OR		-	-
Total Source of Funds			\$2,695,307	\$3,220,043

<u>USE OF FUNDS</u>		<u>SOURCE OF FUNDS</u>	<u>BUDGET FY18</u>	<u>BUDGET FY19</u>
WATER OPERATIONS:				
Martis Woods Pump Station	OP	\$	-	\$ 188,093
Meter Installation	MR/OP		303,681	200,000
Water Main Replacement	OP		886,200	888,174
Water Tank Painting	OP		93,686	72,181
Sanders Well Remodel	OP		-	150,000
Soma Sierra Booster Generator	OP		88,029	-
Donner Trails Booster Generator	OP		88,029	-
Water Production Meter Project	OP		58,477	64,832
ARC Flash Study	OP		100,000	80,000
Meter Replacement	OP		81,391	80,000
Vehicles	VR		-	429,838
Subtotal			\$1,699,493	\$2,153,118
INFORMATION TECHNOLOGY (IT):				
Water SCADA Replacement	OP		663,877	697,724
Network Infrastructure Improvements	OP		208,149	244,415
Various IT Projects	OP		123,788	124,786
			\$995,814	\$1,066,925
Total Capital Projects & Equipment			\$2,695,307	\$3,220,043

45

Source: TDPUD Budget for 2018, published Nov 2017

Reserves

In California, many independent special districts have accumulated reserves. There are no standards guiding the size and use of reserve funds. Reserve funds are useful for TDPUD because their contribution towards capital improvement projects reduces the potential need to accumulate a high debt load. Both TDPUD’s electric utility and water utility have reserve funds; however only the funds associated with the water utility are shown in Figure 4-24 (next page). Reserve and investment policies are listed in the consolidated financial statements. The District’s code has the following cash reserve goals for operations and capital and debt.

- **3.01.01.04 Cash Reserve Goals - Operations:** Water general fund should have a cash reserve equal to twice the highest month budgeted expenditure (this will probably be the month in which principal and interest on debt is due).

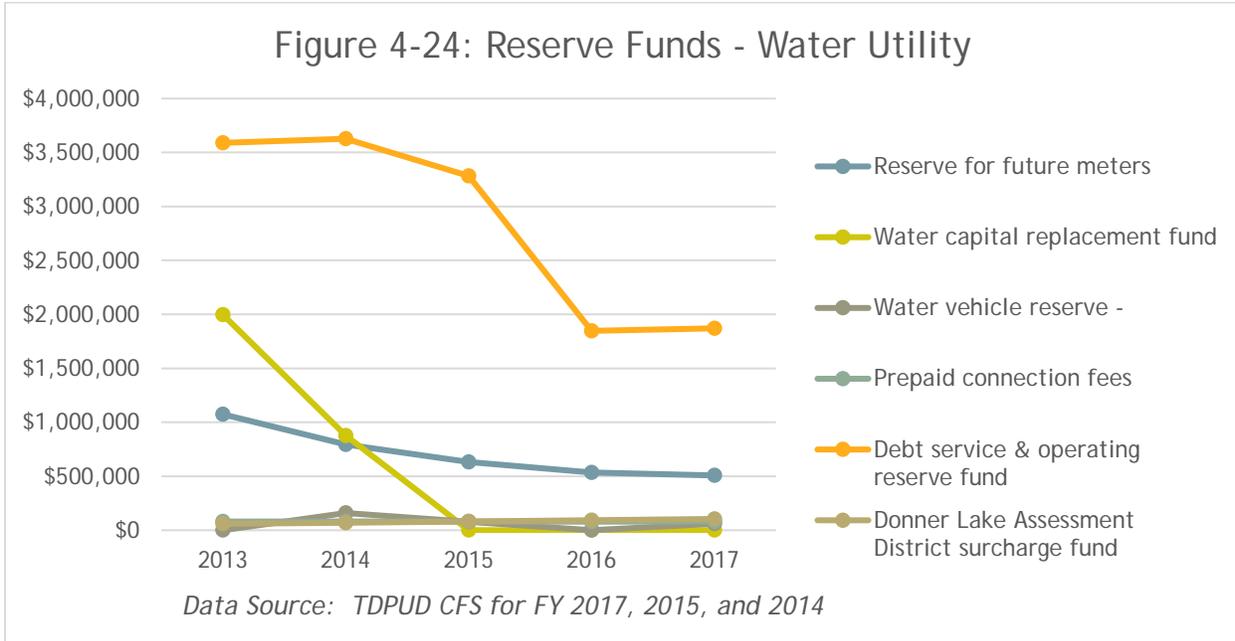
- **3.01.01.05 Capital Reserve Goals:** There should be a revolving water capital reserve fund in the amount of \$4,000,000 to permit projects to be initiated and funded prior to arrangement of long-term debt or other financing.
- **3.01.01.06 Debt Reserve Goals:** There should be a reserve fund for each debt instrument in an amount required by each lender. Long term financing should be used when necessary and the life of the asset purchased is greater than 15 years.

The District estimates it started FY18 with approximately \$2.6 million in reserves that were reported in the CFS for FY 2017. These reserves for the water operations are held in several investment funds as shown in Table 4-29.

Table 4-29: TDPUD Reserve Funds (Audited)		
Name of Reserve Fund	Description of Reserve Fund	\$ Amount in Fund in 2017 per CFS
Water Meter Reserve Fund (Page 29 of the 2018 Budget)	In 2008, the Board adopted an ordinance to charge a \$5 monthly surcharge to all customers of treated water beginning January 2009 through December 2013. Water meters and automated meter reading devices are being installed, and customers will be billed volumetrically in accordance with California Assembly Bill 2572. As meters are installed, these funds are used to pay for related costs.	\$507,653
Vehicle for Water Utility Reserve Fund (TDPUD Budget, 2017)	Beginning in 2009, the Board set aside funds designated for future Water Utility vehicle replacements.	\$60,897
Debt Service and Operating Reserve Fund (Page 48 of the Budget)	Effective 2007, the Board has voluntarily set aside funds to improve the District's cash-to-debt service ratio. In 2017, no funds were used.	\$1,869,954
Prepaid Connection Fees	In compliance with Board rules, the District has set aside prepaid connection fees to cover installation costs of water services.	\$80,261
Donner Lake Assessment District Surcharge Fund	The District established a monthly billing surcharge in the amount of \$6.65 applicable to customers in the Donner Lake area to provide revenue to pay the remainder of the cost of reconstruction effective October 2006.	\$104,371
Total Funds listed above		\$2,623,136

Data Source: TDPUD, CAF, 2017 and 2018 Budget

Four of the six audited reserve funds for the water utility have experienced a decrease in funds since 2013 as shown in Figure 4-23, below. Specifically, since 2013, reserve for future meters decreased by almost 53%; water capital replacement fund decreased by 100%, prepaid connection fees decreased by less than 1%, and debt service & operating reserve fund decreased by almost 48%. Most of these reserve fund decreases have been due to capital improvement project expenditures aimed to reduce water loss from the system. The Water vehicle reserve fund and the Donner Lake Assessment District surcharge fund have experienced an increase in funding since FY 2013.



A multi-year forecast that projects reserve fund amounts into the future is contained in the TDPUD 10-year Financial Master Plan, approved by the Board of Directors and available to the public upon request (TDPUD, 2019). This Master Plan projects that Cash & Reserve Balances will increase from \$5 million in FY18 to \$8 million in FY27.

Investments are managed consistent with the Board’s investment policy which states:

The District pools cash and investments. The District’s investment policy allows for investments in instruments permitted by the California Government Code and/or the investments permitted by the trust agreements on District financing. The District’s investment policy contains provisions intended to limit the District’s exposure to interest rate risk, credit risk, and concentration of credit risk. Investment income from pooled investments is allocated to all funds in the pool. Interest is allocated on the basis of month end cash amounts for each fund as a percentage of the total balance. The District categorizes the fair value measurements of its investments based on the hierarchy established by generally accepted accounting principles. The fair value hierarchy, which has three levels, is

based on the valuation inputs used to measure an assets fair value: Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs. The District does not have any investments that are measured using Level 3 inputs (TDPUD, CFS, 2018, page 17).

TDPUD retains its reserves in three investment funds as listed in Table 4-30, including:

- California Local Agency Investment Fund
- Utah Public Treasurers' Investment Fund
- Placer County Investment Fund

The District keeps an investment as part of its obligations to the Department of Water Resources for a loan (see the debt section below for details), with the State of California Local Agency Investment Fund, which is managed by the California State Treasurer's Office. The loan terms require TDPUD to accumulate a reserve fund as security for each principal and interest payment as they come due. Annual payments into the fund were required for each of the first ten years beginning April 1, 1996. The total reserve fund equals two semi-annual payments and was fully funded during 2006. These funds are set aside for the life of the borrowed amount (TDPUD, 2017).

The Utah Public Treasurers' Investment Fund (PTIF) is a short-term cash investment vehicle available to state and local government entities. This fund primarily invests in investment-grade corporate notes, top tier commercial paper, money market mutual funds and U.S. government agency obligations. The PTIF invests only in securities authorized by the Utah Money Management Act. The Fund's primary investment objective is safety of principal and it is not FDIC-insured. Details about this fund are available on its website at: <https://treasurer.utah.gov/investments/investments-overview/> .

The Placer County Investment Fund (PCTIP) is administered by the Treasurer of the County of Placer. Details about Placer County's investment policies are available on their website at: <https://www.placer.ca.gov/departments/tax/treasurer>. Since a portion of TDPUD's boundary area is located within Placer County, it is eligible to participate in PCTIP. These Investments are managed in compliance with the California Government Code.

Table 4-30, next page, lists over \$6,798,717 in water utility related investments as of October 2018. However, only \$2,623,136 were listed in the 2017 CFS as noted in Table 4-29. Comparing the size of a district's reserve/investment fund to their annual gross revenue is a common financial metric and for purposes of this calculation, the total investments listed in Table 4-28 were utilized. In FY 2017, TDPUD's gross revenue was \$12,571,848. The comparative calculation shows that total investments are equivalent to 0.54 percent of annual gross revenue²².

²² For comparative purposes, in 2018 LAFCO's MSR for the Truckee Sanitary District (TSD) found that TSD's total investments were equivalent to 2.0 of annual gross revenue.

Outstanding Debts and Liabilities

The District currently has \$30 million in total liabilities associated with its water utility as shown below in Table 4-30. No new debt was incurred in 2017. Final payments were made on two of the Water Utility's installment loans in 2017. The annual debt service on the two installment loans was just over \$300,000 (TDPUD, CFS, 2018).

Liabilities

On October 12, 2006, through the Truckee Donner Public Utility District Financing Corporation on behalf of the District issued \$26,570,000 of Certificates of Participation to refund 100% of the outstanding balance of Certificates issued in 1996, complete the funding of the Donner Lake Assessment District water system, and fund water system capital improvements. Since 2006, the District has made payments on the loan and has refinanced the loan to save money. Recently, in 2016, the remaining portion of the 2006 COP was refunded. Due to the refunding an estimated net present value savings of \$222,000 was achieved (TDPUD CFS, 2018).

In June 2011, the District refinanced an existing \$7.8 million pension side fund obligation for the CalPERS employee retirement system. The pension side fund liability was originally amortized through June 2022 with a 7.75% rate. In 2016, a new interest rate of 5% on the pension obligation bond was achieved with refinancing, thereby reducing the District's annual pension costs by almost \$100,000 through 2022 and this accumulates to a total savings of \$1 million over the term (TDPUD, 2017b). In 2016, the District refunded the pension side fund again earning the District annual savings of \$30,000 or \$164,000 in total. The water utility receives approximately 40% of these savings as the debt payment for this pension obligation bond is shared as a percentage of payroll across both utilities. TDPUD's budget shows that the labor overhead costs for the pension was approximately \$1.7 million in 2018 and \$1.85 million in 2019. The net liability for the pension (including both electric and water) in 2017 was approximately \$12 million (TDPUD, CFS, 2018). However, the net pension liability for the water utility was 4.79 in 2017 as shown in Table 4-31.

INVESTMENT STATUS REPORT
Activity for the Month Ended 08/30/18

WATER FUNDS

<u>LOCAL AGENCY INVESTMENT FUND (LAIF) - 2.00%</u>	07/31/18	Activity 8/18	8/30/2018	
General Fund 2..136.1	\$1,400,118			
Consolidate cash		241,278		
			1,641,396	
DSC Operating Reserve Fund 2..136.47	205,536			
			205,536	
Total LAIF Electric Investments	<u>\$1,605,654</u>	<u>\$241,278</u>	<u>1,846,932</u>	LAIF 85-29-002
<u>UTAH PUBLIC TREASURERS' INVESTMENT FUND (UPTIF) - 2.58%</u>				
General Fund 2..136.12	\$595,339			
Transfer to DLAD surcharge		(9,114)		
Restrict facilities fees		(44,665)		
Reimburse DLAD administrative costs		15,862		
Distribute UPTIF interest		(6,715)		
Record monthly interest		1,345		
			552,051	
Facilities Fees 2..136.25	726,324			
Restrict facilities fees		44,665		
Record monthly interest		1,640		
			772,629	2..252.25
Reserve for Future Meters 2..136.51	438,206			
Record monthly interest		990		
			439,195	
West River St. Assessment District 2..136.31	36,159			
Record monthly interest		82		
			36,241	
Prepaid Connection Fees 2..136.7	81,222			
Record monthly interest		183		
			81,405	
Donner Lake Assessment District Fund 2..136.84	680,161			
Reimburse DLAD administrative costs		(15,862)		
Record monthly interest		1,536		
			665,836	
Donner Lake Assessment District Surcharge Fund 2..136.61	121,156			
DLAD surcharge collections		9,114		
Record monthly interest		274		
			130,544	
TSA SAD II Improvement Fund 2..136.85	17,444			
Record monthly interest		39		
			17,483	
Water Vehicle Reserve 2..136.13	227,943			
Record monthly interest		515		
			228,457	
Deferred Liabilites Reserve 2..136.42	100,907			
Record monthly interest		228		
			101,135	
Prop 55 Reserve Fund 2..125.94	323,700			
Record monthly interest		731		
			324,431	
Total UPTIF Water Investments	<u>\$3,348,561</u>	<u>\$847</u>	<u>3,349,408</u>	
<u>PLACER COUNTY INVESTMENT FUND (PCIF) ¹</u>				
Water General Fund PC 2..136.5	\$113,153			
			113,153	
DSC Operating Reserve Fund 2..136.49	1,731,350			
			1,731,350	
Total PCIF Water Investments	<u>\$1,844,502</u>	<u>\$0</u>	<u>1,844,502</u>	
Total Water Investments	<u>\$6,798,717</u>	<u>\$242,125</u>	<u>7,040,842</u>	<u>\$7,040,842.27</u>
Total LAIF Investments	10,365,396	100,000	10,465,396	
Total UPTIF Investments	8,854,495	2,240	8,856,735	
Total PCIF Investments	8,078,500	0	8,078,500	
Total Investments	<u>\$27,298,391</u>	<u>\$102,240</u>	<u>27,400,631</u>	<u>\$27,400,631.29</u>

1. Placer County July interest earnings is not available at the time of report compilation due to software upgrades at Placer County.

Table 4-31: Net Position and Liabilities
Net Position and Liabilities

	<i>2017 Water Utility</i>
CURRENT LIABILITIES	
Other liabilities	
Accounts payable	\$33,632
Customer deposits	\$88,863
Other	\$343,194
Total other liabilities	\$465,689
Current liabilities payable from restricted assets	
Current portion of long-term debt	\$2,131,656
Accrued interest payable	\$145,212
Total Current Liabilities Payable from Restricted Assets	\$2,276,868
Total Current Liabilities	\$2,742,557
NON-CURRENT LIABILITIES	
Long-term debt, net of discounts and premiums	\$21,085,650
Net pension liability	\$4,790,263
OPEB liability	\$446,627
Installment loans	-
Unearned revenues	\$1,041,939
Total non-current liabilities	\$27,364,479
TOTAL LIABILITIES	\$30,107,036
DEFERRED INFLOWS OF RESOURCES	
Pension	\$220,773
Total deferred inflows of resources	\$220,773
NET POSITION	
Net investment in capital assets	\$52,216,044
Restricted for debt service	\$4,576,780
Unrestricted	\$4,682,775
Total Net Position	\$61,475,599
TOTAL LIABILITIES, DEFERRED INFLOWS OF RESOURCES AND NET POSITION	\$91,803,408

Data Source: TDPUD, CFS for FY 2017, Published 2018, page 64

Loan Repaid

Glenshire Escrow Account: In 2017 TDPUD made the final debt payment to the Glenshire Escrow Account and the surcharge to customers within this geographic area ended. This debt had originally been incurred as part of acquisition of the Glenshire Mutual Water Company. Also, the District received a monthly water system upgrade surcharge from Glenshire residents until November 30, 2017. This cash was utilized to pay the installment loan related to the Glenshire water system improvements as specified in the terms of the acquisition agreement.

S&P has assigned the TDPUD’s 2015 Bonds the rating of “AA-” (Brandis Tallman LLC, 2015). TDPUD does have a schedule to repay its debt as shown in Table 4-32, below.

**APPENDIX 8
WATER DEBT SCHEDULE
Principal and Interest Payments**

YEAR	Pipeline COP Rates	Pipeline COP FF	Pipeline COP Assmt	DWR-SRF DONNER LAKE Assmt	DWR PROP 55 Rates	TOTAL
2018	1,263,987	356,284	96,801	800,852	306,481	2,824,404
2019	1,265,069	355,324	100,207	800,852	306,481	2,827,933
2020	1,265,881	357,617	97,973	800,852	306,481	2,828,804
2021	1,252,412	356,179	96,216	800,852	153,241	2,658,899
2022	576,869	358,008	99,060	800,852		1,834,790
2023	577,228	358,672	97,837	800,852		1,834,590
2024	573,008	359,233	100,297	800,852		1,833,390
2025	576,529	360,884	97,925	800,852		1,836,190
2026	573,196	359,005	99,736			1,031,938
2027	575,581	359,806	97,150			1,032,538
2028	574,322	358,474	99,142			1,031,938
2029	570,555	360,101	100,444			1,031,100
2030	575,893	359,147	97,360			1,032,400
2031	574,705	359,524	98,421			1,032,650
2032	573,333	357,313	100,104			1,030,750
2033	575,711	359,424	101,490			1,036,625
2034	574,484	359,309	97,207			1,031,000
2035		306,800				306,800
	12,518,763	6,401,107	1,677,368	6,406,816	1,072,683	28,076,736

Loan Descriptions :

Pipeline COP - Water system improvements and Donner Lake financing
DWR/SRF - Replacement of Donner Lake Water System
DWR/Prop 55 - Water system improvement projects

Debt Payments:

The Water debt payments are funded by development (FF), current customers (rates) and special assm.
The method of payment for the water debt is listed in the column headings.

Rates

TDPUD charges fees for water supply, water treatment, distribution service, and capital improvement costs. Since TDPUD is an enterprise district, rates cover the costs of service provision, with very few exceptions (i.e. Gray’s Crossing and Old Greenwood Districts). Expanding water systems in response to growth in the community is paid by developer fees. Information regarding water rates is provided in the PUD’s website at:

<https://www.tdpud.org/departments/water/rates-fees>. Truckee Donner Public Utility District (District) provides water to 12,900 customers (TDPUD Budget, 2017).

The District Board adopted its water rate schedule via Ordinance No. 2015-01 on August 19, 2015. These rates were adopted based on a water rate study by HDR Engineering which considered several options to fairly allocate the cost of service to the District's customers through increased rates. The HDR Engineering study considered TDPUD's long-term financial needs and its ability to fund future system replacements while maintaining adequate reserves to support ongoing operations and maintenance of the system. The Board held a public workshop was held June 3, 2015 to receive comments from the public. TDPUD notices of the proposed retail water rates and public hearing were mailed to all rate payers and property owners in June 2015, consistent with the requirements of Proposition 218. The District received protests on the retail water rates from less than the majority of parcels within the District. Subsequently, Board adopted a rate increases in August 19, 2015. The rates are effective on the first bill printed after January first of each Fiscal Year. District staff and the Board review the rates and the financial position of the Water System to determine if the rates require adjustment. If future rate increases are considered, they would continue to be subject to the procedural and substantive requirements of Proposition 218. The proposed change to water rates in Fiscal Years 2019 through 2020 is still pending board decision as the TDPUD Board of Directors considers rate changes in the fourth quarter of the year prior to the rate being implemented. The District has not had any variances in these rates (TDPUD, RFI - 2017).

Residential Water Service Rates

Residential customers include single family homes, individual condominium units and townhouse units. The water rates apply to dwellings of both permanent residents and vacation homeowners. The rates charged vary depending on which pressure zone the dwelling is located and depending on whether the residence is equipped with a water meter. More than 95% of residences are currently equipped with a meter and are charged a metered rate (Brandis Tallman, 2015). The domestic water rates for metered residences consist of three components: a base charge, a commodity charge and a pump zone charge as shown in Table 4-33, below. The average monthly bill for a single-family home in TDPUD's Zone 4 would be approximately \$79.05 (base charge = \$65.67, commodity charge = \$4.38, zone 4 charge = \$9.00). This typical monthly bill is slightly less than that charged by the Tahoe City Public Utility District of \$85.00 as calculated via their on-line calculator at: <https://www.tcpud.org/utility-services/water/calculate-your-residential-water-bill>.

**METERED RESIDENTIAL WATER SERVICE BASE RATES, COMMODITY CHARGES,
AND PUMP ZONE CHARGES**
Fiscal Years 2015 through 2020
Truckee Donner Public Utility District

	<u>2015</u>	<u>2016⁽¹⁾</u>	<u>2017⁽¹⁾</u>	<u>2018⁽¹⁾</u>	<u>2019⁽¹⁾</u>	<u>2020⁽¹⁾</u>
Meter Size (Inches)	Monthly Base Charge⁽²⁾					
Up to 3/4	\$57.28	\$60.72	\$63.75	\$65.67	\$67.64	\$69.66
1	68.32	72.42	76.04	78.32	80.67	83.09
Usage (Gallons)	Monthly Commodity Charge (Per 1,000 gallons)⁽²⁾					
0 - 8,000	\$0.64	\$0.68	\$0.71	\$0.73	\$0.76	\$0.78
8,000 +	0.80	0.85	0.89	0.92	0.94	0.97
Zone	Monthly Pump Zone Charge (Per 1,000 gallons)					
Zone 1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Zone 2	0.35	0.40	0.45	0.50	0.55	0.60
Zone 3	0.70	0.80	0.90	1.00	1.10	1.20
Zone 4	1.05	1.20	1.35	1.50	1.65	1.80
Zone 5	1.40	1.60	1.80	2.00	2.20	2.40
Zone 6	1.75	2.00	2.25	2.50	2.75	3.00
Zone 7	2.10	2.40	2.70	3.00	3.30	3.60

Source for Table 4-33 above: Brandis Tallman, 2015

For those residences without a water meter, TDPUD charges a fixed monthly rate corresponding to the pressure zone of the residence. For determining the commodity charge and pump zone charge, the customer is charged for a volume equal to the 90th percentile of usage for all customers within the same customer class (residential or commercial) and meter size, calculated each January based on the metered usage data from the prior calendar year. Table 4-34, below, shows the fixed monthly rate charged to residences without a water meter (Brandis Tallman, 2015).

Table 4-34: Water Rates for Residences Without a Meter

TRUCKEE DONNER PUBLIC UTILITY DISTRICT						
Fiscal Years 2015 through 2020						
Bulk Residential Water Service Rates						
<u>Zone</u>	<u>2015</u>	<u>2016⁽¹⁾</u>	<u>2017⁽¹⁾</u>	<u>2018⁽¹⁾</u>	<u>2019⁽¹⁾</u>	<u>2020⁽¹⁾</u>
Zone 1	\$65.00	\$68.90	\$72.35	\$74.52	\$76.75	\$79.05
Zone 2	67.50	71.55	75.13	77.38	79.70	82.09
Zone 3	71.00	75.26	79.02	81.39	83.84	86.35
Zone 4	74.50	78.97	82.92	85.41	87.97	90.61
Zone 5	78.00	82.68	86.81	89.42	92.10	94.86
Zone 6	81.30	86.18	90.49	93.20	96.00	98.88
Zone 7	85.00	90.10	94.61	97.44	100.37	103.38

Source for Table 4-34: Brandis Tallman, 2015

Commercial Water Service Rates

Commercial customers include multiple dwelling units, trailer parks, public use, dedicated irrigation and commercial establishments. Rates for commercial customers consist of three

components: a base charge, a commodity charge and a pump zone charge. Table 4-35 below, shows the base charges, commodity charges, and pump zone charges for commercial customers.

**COMMERCIAL WATER SERVICE BASE RATES, COMMODITY CHARGES,
AND PUMP ZONE CHARGES⁽¹⁾**
Fiscal Years 2015 through 2020
Truckee Donner Public Utility District

	<u>2015</u>	<u>2016⁽²⁾</u>	<u>2017⁽²⁾</u>	<u>2018⁽²⁾</u>	<u>2019⁽²⁾</u>	<u>2020⁽²⁾</u>
Meter Size (Inches)	Monthly Base Charge⁽³⁾					
Up to 3/4	\$57.28	\$60.72	\$63.75	\$65.67	\$67.64	\$69.66
1	68.32	72.42	76.04	78.32	80.67	83.09
1-1/2	96.04	101.80	106.89	110.10	113.40	116.80
2	132.03	139.95	146.95	151.36	155.90	160.58
3	221.02	234.28	246.00	253.38	260.98	268.81
4	316.25	335.23	351.99	362.55	373.42	384.62
6	474.37	502.83	527.97	543.81	560.13	576.93
8	592.96	628.54	659.96	679.76	700.16	721.16
Zone	Monthly Pump Zone Charge (Per 1,000 gallons)					
Zone 1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Zone 2	0.35	0.40	0.45	0.50	0.55	0.60
Zone 3	0.70	0.80	0.90	1.00	1.10	1.20
Zone 4	1.05	1.20	1.35	1.50	1.65	1.80
Zone 5	1.40	1.60	1.80	2.00	2.20	2.40
Zone 6	1.75	2.00	2.25	2.50	2.75	3.00
Zone 7	2.10	2.40	2.70	3.00	3.30	3.60
	Commodity Charge (Per 1,000 gallons)					
	\$1.57	\$1.66	\$1.75	\$1.80	\$1.85	\$1.91

Source for Table 4-35, above, Brandis Tallman, 2015

Table 4-36

PROJECTED AVERAGE WATER SERVICE RATES INCREASES⁽¹⁾
Fiscal Years 2016 through 2020
Truckee Donner Public Utility District

<u>Effective Date</u>	<u>Average Residential Rate Change</u>	<u>Average Commercial Rate Change</u>
January 1, 2016	6.0%	6.0%
January 1, 2017	5.0	5.0
January 1, 2018	3.0	3.0
January 1, 2019	3.0	3.0
January 1, 2020	3.0	3.0

Source for Table 4-36, above: Brandis Tallman LLC, July 2015

The projected future rate increases outlined in tables 4-32 and 4-33 are summarized in Table 4-36, above. Rate increases can result in increased revenue to the District. For example, water revenues increased 2% in 2017; primarily due to a 3% water rate increase in 2017 that was offset by decreased residential consumption (TDPUD, CFS, 2018).

Other Fees

In addition to monthly fees, connection charges and other fees may apply. The connection charge is based upon an asset replacement which determines the amount of each user’s share of the cost of replacing the District’s capital facilities. Another fee TDPUD charges is called a Standby Water Availability Charges. This charge is levied only to undeveloped property for the availability of water service, should it become needed. This charge is consistent with State Government Code Section 54984 *et seq.* Overall, TDPUD’s budgeting approach has resulted in stable rates.

Effective January 1, 2018		
WATER:		
Connection Fee	5/8" X 3/4" meter service	\$1,290.00
	3/4" meter service	\$1,330.00
	1" meter service	\$1,430.00
	1-1/2" meter service	Actual cost
	2" meter service	Actual cost
	3" meter service	Actual cost
	4" meter service	Actual cost
	6" meter service	Actual cost
Facilities Fee	\$1.80 per square foot of living space	
Meter Box Fees	Meter Box Upgrade Fee - Box not previously upgraded	\$600.00
	Meter Box Fee - Box previously upgraded	\$150.00
Upgrade of existing Water Meter - Customer pays difference in current costs of Connection Fee for existing meter size & the new meter size, plus meter box upgrade fee if applicable		

P:\DEPT_DEVELOPMENT\FORMS New Construction\RESIDENTIAL\Residential E & W Connect & Facilities Fees 2018

Table 4-37

Source for Table 4-37 above: <<https://www.tdpud.org/home/showdocument?id=6519>>.

Water Facilities Fees are only charged to developing properties within the service area in order to cover the pro rata share of the cost of water supply infrastructure, necessary to provide service directly to the new customers. The cost of future source and storage facilities are included in the Facilities Fees in order to maintain an equitable distribution of benefits received between present and future service connections. Facilities Fees are a highly variable revenue source for the District as they are based on the quantity of development activity. However, the Facilities Fees make up only a small percentage of the TDPUD Water Revenues (less than five percent) (Brandis Tallman, 2015).

Water Connection Fees allow development projects to reimburse the District for actual administrative, material and labor costs of connecting to the water system. TDPUD’s water connection fees were adopted by the Board through Ordinance No. 2012-02 and effective December 3, 2012.

Table 4-38: Summary of Rate Indicators		
TDPUD Rate Indicator	Score	Notes
Rates were adopted by the Board of Directors	✓	TDPUD Board of Directors adopted Ordinance No. 2015-01 on August 19, 2015.
Rates are consistent with requirements of the State Water Resources Control Board and the process for adopting rates are consistent with Proposition 218	✓	Ordinance No. 2015-01 and the minutes from the August 19, 2015 public meeting describes consistency with state laws.
Rates are readily available to constituents	✓	Rates are displayed on the District’s website at: https://www.tdpud.org/departments/water/rates-fees .
<p>Key to score:</p> <p>✓= Above average (compared to similar water districts)</p> <p>△= Average</p> <p>○= Below average</p>		

Joint Power Authorities

Effective January 1, 2017, Government Code §6503.6 and §6503.8 require LAFCo to be a repository for all Joint Powers Authority Agreements (JPA) within a county that relate to the provision of municipal services. TDPUD is not yet a member of any JPA²³ associated with its water utility (*Source: TDPUD. November 8, 2017. TDPUD Staff Response to LAFCO’s RFI*). However, during its June 5, 2019 Board meeting, the TDPUD did consider entering into a Joint Powers Agreement with the California Statewide Communities Development Authority (CSCDA). CSCDA is a joint powers authority sponsored by the League of California Cities and the California State Association of Counties. The member agencies of CSCDA include approximately 391 cities,

²³ In regards to its electric utility, TDPUD is a member of two JPAs. The first is the Northern California Power Agency (NCPA), located in Roseville, California. The NCPA was formed in 1968 as a joint power’s agency formed to provide its members with electrical energy purchasing, aggregation, scheduling and management. The NCPA owns and operate several power plants in a 96% emission-free generation portfolio, including two geothermal units and several hydroelectric units. The second JPA is the Utah Associated Municipal Power Systems (UAMPS), a political subdivision of the State of Utah that provides comprehensive wholesale electric-energy, transmission, and other energy services, on a nonprofit basis, to community-owned power systems throughout the Intermountain West.

56 counties, and 74 special districts throughout California. Joining CSCDA would allow the TDPUD to participate in a financing program with the Statewide Community Infrastructure Program.

Cost Avoidance

This section highlights cost avoidance practices given necessary service requirements and expectations. Ideally, proposed methods to reduce costs would not adversely affect service levels. In general, water systems have a fixed cost associated with infrastructure, operations and maintenance and has a variable cost related to demand. Given these constraints, TDPUD utilizes an array of cost avoidance techniques that each contributes incrementally towards keeping costs at a reasonable level. Specifically, TDPUD carefully utilizes its budgeting processes to serve as one means to avoid unnecessary costs. Additionally, TDPUD's accounting policies provide a consistent treatment of expenditures and review thereof. Regular maintenance of infrastructure is a key component of avoiding unnecessary costs. TDPUD works to meet all federal, state and local regulations, and to continually maintain its water infrastructure.

Employee salaries and benefits represent a significant portion of TDPUD's costs. The provision of water services and the associated maintenance and physical improvements are labor intensive activities. Additionally, the cost of living in Truckee is significant. TDPUD works to reduce costs associated with labor as part of its human resource duties and by participating in CALPERS. For example, employee compensation levels are compared to other districts and target compensation rates are set within certain ranges. When employees retire, there are costs associated with re-filling these positions and TDPUD works to ensure continuity and training (TDPUD, RFI, 2017b).

Over the past several years, TDPUD has taken additional measures to save money, lower expenses, and improve services as listed herein:

- Operational staff with both the water utility and the electric utility assist each other and sometimes fill roles in both departments (i.e. shared staff). For example, the Fleet Mechanic position has gone from two FTE's to 1 ½ FTE's, sharing the other ½ person with the Water Utility. Dissolving two FTE's positions in FY18.
- Both utilities assist in snow removal of District facilities (*Source: TDPUD. RFI, 2017b*).
- Cooperation with the Town of Truckee regarding tree removal from the public right-of-way.
- The District has upgraded pumps, pipeline replacement projects, and SCADA reliability all assisting in water operation efficiencies and cost saving measures to the rate payers.
- The District integrated its Customer Services and Conservation Divisions under one umbrella to provide better services to District customers and have more cross training and coverage.
- The District's General Manager serves as the Water Utility Manager; which is an efficiency and cost savings measure to rate papers.

- The refunding of the 2006 COP's and Pension side fund were cost saving measures as well (*Source: TDPUD. RFI, 2017b*)

As part of its on-going effort to reduce overhead and operational costs, the District considered a reduction in two FTE's in the FY18, this derived from a substantially complete project and staff efficiencies. As technology increases, efficiencies for meters use less staff time, furthering the cost savings to rate payers. Additionally, the District updates its Financial Master Plan and rate studies to ensure the best possible rates, reliability, and services are provided to rate payers (*TDPUD. RFI, 2017b*).

Memberships & Resource Sharing

Membership in professional organizations is a way that special districts can leverage their expertise and the expertise of their colleagues in similar districts to efficiently provide mutual assistance, share information and to support professional development. TDPUD does maintain mutual aid, automatic aid agreements, and/or memberships in the following organizations:

- CAL WARN (California Water/Wastewater Agency Response Network)
- California Utilities Emergency Association
- California Municipal Utilities Association (for both public water agencies and utilities)
- California Special Districts Association

Area Managers

- *Data Source: TDPUD Response to RFI, date November 2017 and personal communication, 2019*

Risk Management

Managing risks in a method special districts commonly utilize to reduce unforeseen costs associated with risks. Insurance policies assist special districts in managing risks. TDPUD uses an insurance broker to assist with researching insurance packages for property, liability and workers' compensation insurance. The coverage includes property, liability, crime and workers' compensation insurance. The property, liability and crime policies are specific to governmental agencies and are not in a pooled program. The Workers' Compensation policy is with Special District Management Authority which is a self-insurance pooled group specific to special districts in CA (*TDPUD. RFI, 2017b*).

4.7: OPPORTUNITIES FOR SHARED FACILITIES

LAFCO is required by the CKH Act to make a determination about the status of, and opportunities for, shared facilities. Additionally, LAFCOs describe shared facilities and regional cooperation in municipal service reviews because it is thought that a local government agency's ability to partner with another entity, public or private, in order to accomplish the same level

of public service, while splitting the costs to deliver the service will provide an efficiency of service. Ideally, a sharing or cooperative arrangement would yield the same public service at less cost, and with less resources required from a community to pay for those results. Another aim of LAFCO is to avoid the duplication of service. This issue is relevant in the Truckee area because eight local government agencies have overlapping boundaries: Town of Truckee, Truckee-Donner Public Utility District, Truckee Fire Protection District, Truckee Donner Rec and Park District, Tahoe-Truckee Sanitation Agency, Tahoe Forest Hospital District, Truckee Tahoe Airport District, and Truckee Sanitary District. Additionally, the Northstar Community Services District is located nearby. The TDPUD's activities related to shared facilities and regional cooperation are described in the following paragraph.

The nearest water service provider is Northstar CSD located directly to the south of and adjacent to TDPUD's boundaries. The Donner Summit PUD is located to the west and it is separated from TDPUD by open space and mountainous terrain. TDPUD has been operating independently from these two districts since its formation in 1927. The financial, administrative, and technical feasibility of connecting TDPUD to either the Northstar CSD or the Donner Summit PUD water systems has not been studied. However, due to topography, the location of water service providers, and the manner in which water distribution systems are designed, sharing facilities such as treatment facilities, water pumps and distribution infrastructure with Donner Summit PUD might face several hurdles.

LAFCO's 2005 MSR on Eastern County Water Services briefly outlines a potential concept to reorganize services among TDPUD with Northstar CSD (now including PCWA Zone 4) as follows: "Advantages of only one water service provider in the Truckee/Martis Valley area would include reduced costs because of reduction in personnel and decreased infrastructure redundancy, monitoring and control of a limited water resource, provide a more efficient water system, provide better coordination with future area planning including local governments, stronger negotiation power for water rights, and a more unified rate schedule. Disadvantages of only one water service provider in the Truckee/MVGB area would include costs to connect the main water system to remote or geographically constrained areas as it may be more structurally and economically feasible to construct new water system in outlying areas, and lack of competition." However, water service is the only service that is common to both districts. TDPUD provides water and electric service. NCSD provides water, sewer, fire and solid waste clean-up services and contracts with Placer County to provide road maintenance, snow removal and trail development and maintenance. Therefore, there may be limited opportunities for reorganization. Additionally, this potential reorganization has not previously been studied in any detail and the existing organizational structure among water service providers in the area is functioning well. It is possible that additional sharing of facilities (such as office space, corporation yards and specialized equipment) with Northstar CSD may be workable in the future, but this would need further evaluation.

TDPUD does cooperate with other local agencies. For example, the District leases land to other public agencies such as the Truckee Police Department and/or the County Sheriff, the Truckee-Donner Recreation and Park District, and other agencies as needed (Nevada County LAFCO,

2005 and TDPUD Staff, 2017). In another example, the TDPUD has an intertie agreement with the Northstar CSD (as part of the former PCWA Zone 4). Additionally, since TDPUD also provides electricity services, it is able to distribute the cost of shared resources and facilities among its utility units (i.e. electricity and water) (Nevada LAFCO, 2013, page 28). Also, the District participates in the Tahoe Sierra Integrated Regional Water Management Plan (IRWMP) as described on the Plan website at: <http://tahoesierrairwm.com/> (TDPUD, 2017b, Response to RFI). Additionally, TDPUD, in partnership with PCWA and NSCSD, has been very active in supporting state-of-the-art hydrologic and geologic studies, including science-based modeling regarding the MVGB; including direct participation and funding of the United States Bureau of Reclamation's Truckee River Basin Study and associated DRI Martis Valley Integrated Watershed Groundwater Model (DRI Rajagopal and others, 2015), along with other studies. TDPUD is also a signatory to the Truckee River Operating Agreement (TROA) which is an agreement between California and State of Nevada interests, enacted by an act of the United States Congress, and which sets limits on use of surface and groundwater within the Truckee River Basin (TDPUD et. al., 2016). TDPUD cooperates with other water users in the groundwater basin to assist with compliance to SGMA.

In summary, although facilities sharing opportunities are limited, the TDPUD may wish to consider future opportunities to share corporate yards, specialized equipment, and/or office space with the Town of Truckee, the NorthStar Community Services District, or the Truckee Sanitary District when possible.

4.8 GOVERNMENT STRUCTURE AND ACCOUNTABILITY

The TDPUD is a local government agency providing water and electric service in the Truckee area. The TDPUD's mission is: "...to provide reliable, high quality water and electrical power services while meeting customer demand, and to manage District resources in a safe, open, responsible, environmentally sound manner at the lowest practical cost." The TDPUD also has the following six goals to: 1) Responsibly serve the public; 2) Provide a healthy and safe work environment for all District employees; 3) Provide reliable and high-quality water supply and distribution systems to meet current and future needs; 4) Provide reliable and high quality electric supply and distribution system to meet current and future needs; 5) Manage in an environmentally sound manner; and 6) Manage the District in an effective, efficient, and fiscally responsible manner (TDPUD, 2018).

The TDPUD is governed by a 5-member Board of Directors with public elections held every two years. Directors serve for four-year alternating terms to ensure continuity. Any registered voter of Nevada and Placer County living within the District boundaries is eligible to run for a seat on

the District board. Regularly scheduled meetings for the Board are held on the first and third Wednesdays of the month at 6:00 PM. Meetings are located at the Board Room of the Truckee Donner Public Utility District, 11570 Donner Pass Road, Truckee, California. The current Board members are as follows:

Name	Role	Term
Tony Laliotis	President	Expires 2022
Christa Finn	Board Member	Expires 2022
Joe Aguera	Board Member	Expires 2020
Jeff Bender	Board Member	Expires 2020
Bob Ellis	Board Member	Expires 2020

All meetings are publicly posted on the Friday prior to the Wednesday Board meetings. Agendas and board packet information are available to the public at the TDPUD website, <https://www.tdpud.org/board/board-meetings>, and emailed to a list of interested parties upon request (TDPUD, 2018). All meetings are open to the public and the District operates in accordance with the Brown Act (Government Code §§ 54950-54926). In addition, the TDPUD website allows the public to access live broadcasts of each meeting. Agenda packets and meeting minutes are available for download from January 2015 to the present. Meeting minutes are posted to the website once approved by the Board (TDPUD Staff, 2017; TDPUD, 2018).

CONTACT INFORMATION:

Michael D. Holley
General Manager
michaelholley@tdpud.org

The agenda for each Board meeting includes a public comment period for matters not on the agenda. The local newspaper, Sierra Sun, also publishes meeting notices. The District’s website (www.tdpud.org) is a communication vehicle for District meeting agendas, meeting minutes, and information on the District’s services and programs (TDPUD, 2018). The TDPUD legal counsel is a contracted position with the Law Offices of Porter Simon. In 2015-2016, the Nevada County Civil Grand Jury recommended that the boards of directors for all local tax-supported agencies in Nevada County remain familiar with the roles and responsibilities that govern their actions. The Grand Jury subsequently published “A Better Board Member” which lists Findings from past Nevada County Civil Grand Jury reports and Findings discovered by the 2015-2016 Civil Grand Jury. Although the TDPUD is not a tax supported district, the Jury’s report lists seven recommendations that are worth consideration by the PUD Board members. In summary, there are no known noncompliance issues with the District in relation to the requirements of the Brown Act, the Political Reform Act, and similar laws.

Management Efficiencies

The TDPUD operates under the direction of the elected Board of Directors. The General Manager reports to the Board of Directors and is responsible for directing District operations as described in District Code, Title 2. The General Manager is delegated full charge and control of the construction, maintenance, and operation of the District and also serves as the Water Utility Manager (TDPUD, 2017b). The General Manager is tasked with providing policy guidance and program evaluation to the Board and staff; reviewing the District's activities and recommending to the Board the best type of structure, work standards, and improvement methods; setting standards for staff and directing all District personnel; directing the preparation and administration of the District budget; ensuring that all regulatory and contractual requirements are met; representing the District locally, regionally and at the state and federal levels; and ensuring the best interests of the District are met (TDPUD, 2006).

The District is divided into five divisions listed as Electric, Water, Conservation/Customer Service, Finance & Accounting, and General Management. In 2017, the TDPUD had 71 FTE's (Full-time Equivalent staff). The District considers one FTE for each position that is expected to work 40 hours per week. In order to improve efficiency, the District shares FTE's across the Electric and Water utilities. The 2018 staffing levels were recently reduced by 2 FTE's, down to a total of 69 FTE's, via two divisions within the TDPUD with staff retirements and those two positions will not be filled (TDPUD Staff, 2017). Also, the conservation and customer service divisions were recently merged. According to the District's website, seven employees have contact information listed within Finance & Accounting, and 12 employees contact information is listed with the Electric Utility Division (TDPUD, 2018). The water utility is made up of a total of 33 FTE's (TDPUD, 2017). Figure 4-25, Organization Chart provides a summary of District staffing. However, the PUD periodically updates its Organization Chart and readers are invited to the website (<https://www.tdpud.org/>) for the most recent version.

Customers of the TDPUD have an entire page available on the District's website to interact with the District including pay bills online, fill out applications for services, close accounts, access additional forms, apply for rebates, turn service on/off, review water usage, and information regarding water use and leaks. In addition, customers can contact customer service for comments or complaints regarding water and electric services. There are also links to file a damage claim, file a complaint, and instructions for disputes and appeals. In 2016, the TDPUD received one complaint, and in 2017 the District received four complaints; three of these were in reference to being unable to successfully pay bills online via SmartHub and one complaint was regarding air in the customer's water line (TDPUD, 2017b).

The TDPUD's Water System Urban Water Management Plan was updated in 2015 and adopted in 2016. The District worked cooperatively with the Northstar Community Services District (NCSD) and the Placer County Water Agency (PCWA) to study the available water supplies in the Truckee and Martis Valley Area. In addition, two major studies were jointly funded by all three agencies:

- Ground Water Availability in the Martis Valley Ground Water Basin, Nevada And Placer Counties, California, March 2001.

- Martis Valley Groundwater Management Plan, April 2013.

The District’s Water System Water Master Plan Update was adopted in 2012 and the District Water System Facilities Replacement Plan was updated in 2002 (TDPUD, 2016; TDPUD, 2002; TDPUD, 2012). All studies and plans are available to the public on the District’s website at: <https://www.tdpud.org/departments/water/studies-plans>.

Awards

The Truckee Donner Public Utility District is eligible for multiple awards from many organizations including the Truckee Chamber of Commerce, the California Special Districts Association (CSDA), and the California Water Environment Association (CWEA). In partnership with the Town of Truckee, the Truckee Chamber of Commerce manages destination marketing for Truckee through a comprehensive marketing strategy and the California Welcome Center that assists over 100,000 visitors every year offering valuable information and services. Table 4-39 shows the awards won by the Truckee Donner Public Utility District. Though this MSR does not cover the electrical utility section of the District, all known District awards are listed here, including those of the electric utility division.

Table 4-39: Awards to TDPUD

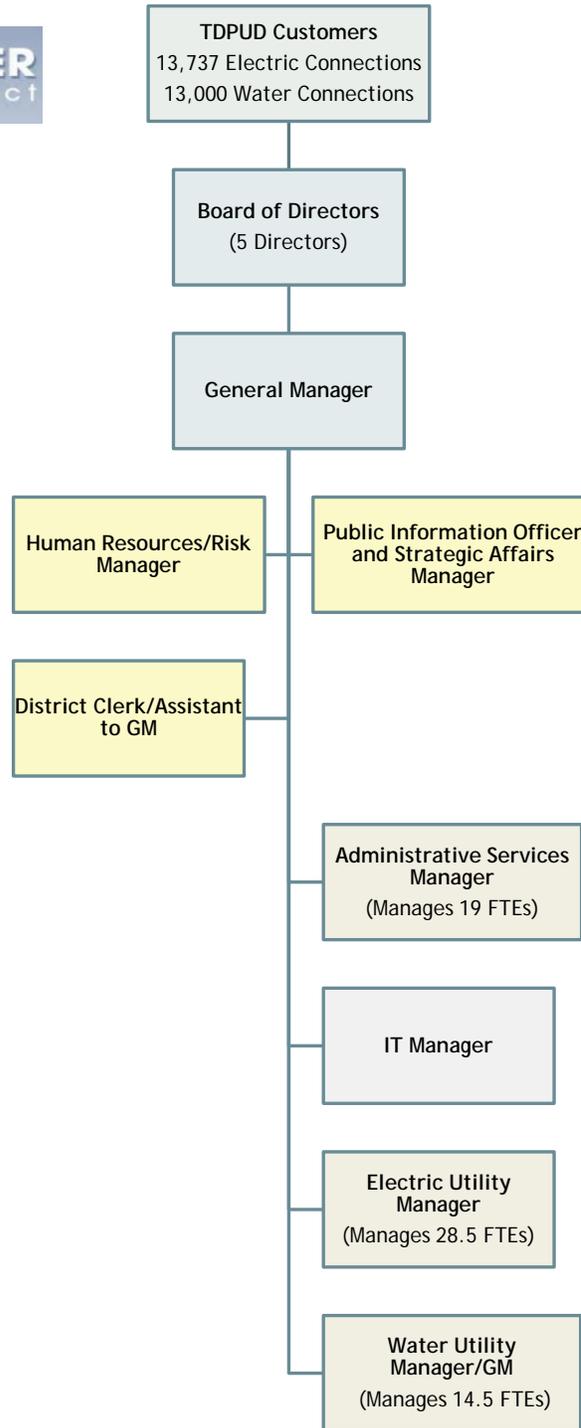
Year	Awards	Award Recipient
2018	Distinguished Service Award, Utah Associated Municipal Power Systems (UAMPS)	Stephen Hollabaugh
2017	Truckee Chamber of Commerce, Excellence in Government Award	TDPUD
May 2016	The California Municipal Utilities Association awarded TDPUD a Resource Efficiency & Community Service Award for its support of the Truckee High School Trashion Shows put on by the Truckee High School Envirolution Club and the Sierra Watershed Education Partnerships. The award recognizes originality and creativity in energy and water resources efficiency.	TDPUD
1999	Truckee Chamber of Commerce, Large Business of the Year (50+ employees) Award	TDPUD

(Source: Longerbeam, 2018; Truckee Chamber of Commerce, 2018; TDPUD Response to LAFCO RFI, 2017b)

4.9 LAFCO POLICIES AFFECTING SERVICE DELIVERY

Local Agency Formation Commission's (LAFCo's) are charged with applying the policies and provisions of the Cortese-Knox-Hertzberg Act regarding annexations, incorporations, reorganizations, and other changes of government. The Cortese-Knox-Hertzberg (CKH) Act requires LAFCo to exercise its authority to ensure that affected populations receive adequate, efficient and effective governmental services. LAFCo will normally approve an annexation or detachment only if the Commission determines that the annexing agency possesses the capability to provide the most efficient delivery of applicable services for the affected population. Nevada LAFCo implements sixteen standards which mirror the requirements of the CKH Act. Under policies related to annexations, Nevada LAFCo must consider factors for evaluating the capability of an annexing agency to provide the required service, such as water conveyance in the case of TDPUD. These factors may affect the decision to approve a particular annexation. There are no aspects of water service required to be addressed in this report by LAFCo policies that would affect delivery of services (Nevada LAFCo, 2015).

Figure 4-25: TDPUD Organizational Chart, 2019



Source: TDPUD Staff, 2017 and 2019

4.10: SUMMARY OF MSR DETERMINATIONS

Based on the information included in this report, the following written determinations involve the service factors the Commission must consider as part of a municipal service review. The Commission's final MSR determination will be part of a Resolution which the Commission formally adopts during a public meeting.

Growth and Population Projections

1. The Truckee Donner Public Utility District (TDPUD) provides water services to approximately 13,000 equivalent dwelling units (EDUs), including commercial facilities as of 2019.
2. The most recent Sphere of Influence (SOI) update in 2013 identified near-term and long-term annexation areas, generally encompassing the Town of Truckee boundaries and SOI. TDPUD's 47.35 square mile boundary area includes the Town of Truckee and neighborhoods in unincorporated areas of Placer and Nevada Counties.
3. Between the years 2016 and 2040, an additional 2,418 persons are expected to reside within TDPUD's boundaries as determined by the Slow Growth Rate shown in Table 4-6. This represents an overall 12 percent increase in projected future population.
4. Since the Town of Truckee General Plan did not foresee the economic downturn beginning in 2009, its population projections differ from the current reality; with the population decreasing between 2010 and 2015. This suggests that the Town will have enough land and infrastructure to accommodate future population growth past 2025. The TDPUD has sufficient physical infrastructure capacity to accommodate existing levels of development. If the Town approves new residential commercial or residential development additional infrastructure, such as water pipes, pumps, or wells may be needed to serve those projects. The Town and the TDPUD regularly communicate about development projects and plans for growth.
5. Due to the boundary differences between the TDPUD's water and electrical service areas, and the limit of this MSR update to only analyze water services, it is recommended that LAFCo prepare an electrical service boundary map for the TDPUD prior to the next SOI update.

Disadvantaged Unincorporated Communities

6. According to the U.S. Census, the median household income (MHI) for the State was \$61,489 in 2014 (US Census, ACS, 2010-2014). This yields a disadvantaged unincorporated community (DUC) threshold MHI for less than \$49,191 (80 percent of the State MHI). As of 2014, the median household income (MHI) in the Town of Truckee was estimated to be \$72,159. This is significantly higher than the DUC threshold MHI.
7. No unincorporated areas were identified as DUC's within the TDPUD's boundaries or SOI.

Present and Planned Capacity of Public Facilities

8. TDPUD is the sole public provider of water service within its boundaries, although there are also individual privately-operated wells for domestic use present.
9. DWR estimates there are 294 existing groundwater wells in the MVGWB including both public and private wells. The Basin Area covers 36,357 acres.
10. The District has constructed water supply wells as necessary to provide service to growth within the service area. For example, the Old Greenwood Well was constructed in 2005 and placed into service in 2006. The Fibreboard Well was placed into service in 2009.
11. TDPUD operates two water systems in the Truckee area: Hirschdale System (PWS CA 2910010), and Truckee System (PWS CA 2910003). These two systems are not interconnected and are physically separated by geographic and topographic distance. The Hirschdale System serves 24 accounts. The Truckee System provides treated water to nearly 13,000 connections (12,300 residential, 700 commercial).
12. The Truckee-Carson-Pyramid Lake Water rights Settlement Act (Settlement Act), Public Law 101-618 was adopted by Congress and Signed by the President in 1990. The Settlement Act limits the State of California's total water use for the Truckee River basin (including the MVGB) to 32,000 acre-feet per year, including use of both surface and groundwater (Settlement Act, Sec. 204(c)(1)) (TDPUD et. al., 2016). The Settlement Act's Section 205 directs the federal Department of Interior to negotiate an operating agreement, which has since become known as the Truckee River Operating Agreement (TROA). The TROA sets maximum municipal and industrial water use for California, which limitation is more than two times greater than the current production from the Martis Valley Basin for all public and private groundwater users.
13. TDPUD estimates that the Martis Valley Groundwater Basin (MVGB) can sustain groundwater extraction of between 22,000 - 25,000 acre-feet per year (AFY) without adversely affecting the long-term storage of the Basin (TDPUD et. al. 2016).
14. The current production of groundwater from the MVGB is estimated by TDPUD to be approximately ~7,000 Acre-Feet per Year (AFY) (TDPUD et. al. 2016). In the past LAFCO has noted production at 9,151.7 AFY (Nevada LAFCO, 2003 MSR).
15. TDPUD projects that future demand for groundwater could reach ~13,000 AFY at build out. However, this projected future water demand may be a low estimate as described in Appendix 14.
16. The maximum total net depletion as defined in the TROA Settlement Act is set at 17,600 AFY.
17. Groundwater pumping in the MVGB represents less than 2% of the system's total water budget and is closer to 1% when returns to the water system from the regional sewage treatment plan are considered (TDPUD et. al. 2016).
18. TDPUD considers groundwater the preferred water source, since an abundant supply currently exists. Although the use of surface water to supply future demand could be

considered a long-term option if it is determined to be a more cost-effective solution, significant new infrastructure would be required to access surface water supplies. Additional studies would be needed to compare the cost effectiveness and environmental impacts of surface water supplies as compared to groundwater supplies as demand approaches buildout conditions.

19. If the update to the Truckee General Plan allows population growth (both residents and visitors) that approaches the MSR “fast-growth” scenario, then TDPUD and the Town of Truckee should closely coordinate regarding demands on future water supply. When TDPUD next updates its UWMP, expected in 2020, it should utilize future population projections that are consistent with the projections of the Town and both Nevada and Placer Counties.
20. TDPUD should closely monitor the Town of Truckee’s General Plan Update process. TDPUD should ensure the Town understands that if future population growth approaches the MSR “fast-growth” scenario, extra care will be necessary when calculating future water demand in light of TROA limitations and other water supply constraints.
21. Both TDPUD and the Town of Truckee should continue to consider cumulative future water demand on the MVGWB and should ensure the SGMA sustainability criteria will be met.
22. The 2015 Water Master Plan Update and other TDPUD studies have identified needed improvements to the existing infrastructure. The majority of these improvement projects are related to pipeline replacement.
23. As of 2015 TDPUD operated 12 wells in the MVGB as listed in Table 4-21 and in 2016 one well was dropped for a new total of eleven (11) active municipal wells. The eleven active potable water supply wells are in compliance with the 10 µg/L limit for arsenic. Two of the wells are equipped with arsenic removal systems to ensure compliance with the arsenic requirements.
24. Radon is a colorless, odorless, and tasteless gas that comes from the natural breakdown of uranium in rocks and soil. EPA has been concerned about the potential risk of drinking water containing radon and the link to a risk of stomach cancer. In the year 2000, the EPA considered proposed radon regulations; however, to date those have not been finalized. At the time, the preliminary EPA announcement indicated that the maximum allowable radon would likely be 300 picocuries per liter. TDPUD does manage and treat its water. If the EPA were to consider new standards in the future, the TDPUD would likely be able to study how to best meet those standards.
25. TDPUD does not provide extra-territorial water services.

Financial Ability of District to Provide Services

26. The Consolidated Financial Statement and budgets are prepared for a two-year timeframe and they clearly and transparently present financial information.
27. TDPUD reserve policy is incorporated into Title 3 of the District Code which is posted on the District website.
28. TDPUD's consolidated Financial Statement contains several accounting policies. Additionally, the District Code describes its purchasing Policy, with specific procedures for purchases and procurement practices.
29. Employee wage scale by bargaining unit and the unrepresented employee wage scale are available on the PUD website. Required reports are sent to the California State Controller for Government Compensation.
30. TDPUD's total revenue was less than the total expenditures in each of the three study years. Capital contributions were made to fund capital improvement projects during this timeframe and it is recognized that capital improvement projects are expensive and necessary. Many water districts in California are in a similar situation.
31. Changes to the Net Position are shown in Table 4-25 and Table 4-31, to be highly variable. However, the decline in Net Position of -\$3.9 million in FY2014 to 2015 was predominately due to *Period Adjustment per Implementation of GASB 68*.
32. Rates for water service were adopted by the TDPUD Board of Directors via Ordinance No. 2015-01 on August 19, 2015.
33. The process for adopting rates are consistent with Proposition 218 and TDPUD's Ordinance No. 2015-01 and the minutes from the August 19, 2015 public meeting describes consistency with state laws.
34. Rates are readily available to constituents. Specifically, rates are displayed on the District's website at: <https://www.tdpud.org/departments/water/rates-fees>.

Opportunities for Shared Facilities

35. In the Truckee area, eight local government agencies have overlapping boundaries: Town of Truckee, Truckee-Donner Public Utility District, Truckee Fire Protection District, Truckee Donner Rec and Park District, Tahoe-Truckee Sanitation Agency, Tahoe Forest Hospital District, Truckee Tahoe Airport District, and the Truckee Sanitary District. Additionally, the Northstar Community Services District in geographic proximity to the south and the Donner Summit PUD is located west of TDPUD.
36. The financial, administrative, and technical feasibility of connecting TDPUD to either the Northstar CSD or the Donner Summit PUD water systems has not been studied. However, due to topography, the geographic distance between water service providers, and the manner in which water distribution systems are designed, sharing facilities such as treatment facilities, water pumps and distribution infrastructure with Donner Summit

PUD might face several hurdles. It is possible that additional sharing of facilities (such as office space, corporation yards and specialized equipment) with Northstar CSD may be workable in the future, but this would need further evaluation.

37. TDPUD works cooperatively with its neighboring government agencies including the Truckee Police Department and the County Sheriff among others. TDPUD has an intertie agreement with the Northstar CSD (as part of the former PCWA Zone 4). Additionally, since TDPUD also provides electricity services, district is able to distribute the cost of shared resources and facilities among its utility units (i.e. electricity and water)
38. TDPUD cooperates with the local watershed association and the Tahoe Sierra Integrated Regional Water Management Plan (IRWMP) as described on the Plan website at: <http://tahoesierrairwm.com/>. The PUD's participation in these efforts demonstrates regional cooperation.
39. Since new development pays the entire cost of new infrastructure that is required to accommodate the new development through payment of connection fees to TDPUD, there is little additional opportunity to eliminate costs attributable to accommodating additional growth.

Accountability for Community Service Needs

40. The governance structure of TDPUD is that of an independent special district governed by a five-member board elected at-large from within District boundaries.
41. The TDPUD Board of Directors holds public meetings on a regular basis, scheduled for the first and third Wednesdays of the month at 6:00 PM. Meetings are located at the Board Room of the Truckee Donner Public Utility District, 11570 Donner Pass Road, Truckee, California.
42. TDPUD Board meetings are noticed according to the Brown Act and the meetings provide an opportunity for public comment. Meeting notices are publicly posted on the Friday prior to the Wednesday Board meetings. Agendas and board packet information are available to the public at the TDPUD website, <https://www.tdpud.org/board/board-meetings>, and emailed to a list of interested parties upon request.
43. A key performance indicator suggests that archives of meeting minutes and agendas for three years be available on the district's website. Agendas and associated packets are available on the PUD website for 2016, 2017, and 2018. Meeting minutes are available going back to 2015. Provision of archival meeting material demonstrates transparency.

Any Other Matters Related to Service Delivery as Required by LAFCo Policy

44. There are no other aspects of the water service required to be addressed in this report by LAFCo policies that would affect delivery of services.

4.11: ISSUES WITH RECOMMENDATIONS

This MSR describes the provision of water services by TDPUD. No significant areas of concern were found during this analysis. Some areas of continual improvement were noted and listed in the above determinations.

CHAPTER 5: DONNER SUMMIT PUBLIC UTILITY DISTRICT



Photo Courtesy of: <http://trailstrekker.blogspot.com/2011/08/lake-angela-by-way-of-pacific-crest.html>

This chapter of the Municipal Service Review (MSR) describes the provision of water services by the Donner Summit Public Utility District (DSPUD/District). This District was formed in 1948 and currently provides water treatment and distribution, and sewer collection and treatment services within its service area. This MSR chapter on the DSPUD was originally developed under contract with Placer LAFCo as part of the Tahoe and Martis Valley MSR. Subsequently, this chapter was updated with more recent financial information as available.

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5.1: OVERVIEW OF DISTRICT

The Donner Summit Public Utility District (DSPUD/District) provides water treatment and distribution, and sewer collection and treatment for customers within its service area. Placer LAFCo is the principal LAFCo for the DSPUD. The PUD is a multi-county district serving customers in both Nevada County and Placer County. Placer LAFCo and Nevada LAFCo have previously prepared municipal service reviews for the District as follows:

- 2004 Western County Wastewater Services MSR (Nevada LAFCo)
- 2018 Martis Valley and North Lake Tahoe MSR (Placer LAFCo)
- 2018 Western County Wastewater Services MSR (Nevada LAFCo)

This MSR chapter created for Nevada LAFCo focuses on the provision of water services to customers located in Nevada County.

DSPUD is a Public Utility District operating under the Public Utility District Act: Public Utilities Code §§ 15501-18055. The District provides water treatment and distribution, and sewer collection and treatment. This MSR chapter addresses only the provision of water services, including water treatment. The District's main office is located at 53823 Sherritt Lane, Soda Springs, CA 95728. Its mailing address is P.O. Box 610, Soda Springs, CA 95728. The website, www.dspud.com, serves as a public information tool for the District. The General Manager is Tom Skjelstad who may be contacted via email at tskjelstad@dspud.com. Julie Bartolini at jbartolini@dspud.com is an alternative contact. The Governing Body is an Elected Board of Directors, with 4-year terms. The Board meets regularly the Third Tuesday of each month, 6:00 p.m. at District Offices. The District was initially formed in 1948.

TYPE AND EXTENT OF SERVICES

The District provides water treatment and distribution and sewer collection and treatment to approximately 275 customers within its service area (DSPUD, 2019). The District also provides maintenance of related facilities and equipment. Primary activities for the District's water system include collecting water from Lake Angela, treating the water, and distributing it to domestic users throughout the DSPUD boundaries. DSPUD is a public agency formed in 1948. Approximately 331 water and 273 sewer service connections are maintained by the District and supported by its operating budget which was \$3.8 million in FY 2015-2016 (DSPUD, CAFR, 2016).

DSPUD provided fire and emergency response services up until 2006, when those service responsibilities were transferred to neighboring Truckee Fire Protection District as part of a reorganization approved by Nevada LAFCo.

LOCATION AND SIZE

The District is located in the unincorporated area of eastern Nevada County and northeastern Placer County. It encompasses approximately 13 square miles (8,320 acres) along the Interstate 80 (I-80) corridor, including the Norden and Soda Springs communities in the Donner Summit area. The utility district is roughly bounded by the I-80/Old Highway 40 exit to the west and

by Donner Summit to the east. The northern edge of the District extends to Castle Peak. The PUD serves the Sugar Bowl Ski Resort located in Placer County. The geographic area is relatively high elevation ranging from 6,500 to 8,000 feet above sea level. Several mountain peaks are nearby including Donner Peak, Castle Peak, and Mt. Lincoln. Donner Summit is at the crossroads of three important watersheds: the Yuba River, American River, and the Truckee River. The local watershed includes meadows, old growth forests, and sub-alpine habitat that supports an array of plants and wildlife, including a diverse suite of butterflies.

The District's customer base is limited to residential users and commercial activity, including Caltrans rest stops along I-80 and four ski resorts that operate on the summit: Boreal, Sugar Bowl, Soda Springs, and Donner Ski Ranch. The District has no industrial users. The Town of Truckee is the closest socioeconomic center to the District area. Soda Springs¹, where the District office is located, has only a few tourist-oriented commercial uses and a population of 81 according to the 2010 US Census, only a portion of which may be full-time residents. There were 93 registered voters in the service area as of 2013. Land uses in the District are predominantly forest and recreational, followed by seasonal, weekend/vacation residential uses. The water treatment plant and district office are located on Sherritt Lane at 6,800-foot elevation, immediately north of I-80 off Donner Summit Road in Soda Springs. See Figure 5-1 for a map of the service boundaries and significant District features.

5.2: FORMATION AND BOUNDARY

The formation of the District was first put to a vote in Placer County on December 19, 1947, and in Nevada County on March 2, 1948. Nevada County's Ordinance No. 163 called for a special election "to determine whether or not said utility district shall be organized under the public utility district act ...". Nevada County Board of Supervisors' Resolution dated March 24, 1948 accepted the outcome of the vote in both Nevada and Placer counties. This Resolution contains the initial legal description for the District (DSPUD, 2018). The California Secretary of State subsequently certified the Board's Resolution on August 27, 1948, under the provisions of Section 9 of the Public Utility District Act. On March 24, 1950, Senate Bill No. 35 was proposed and subsequently amended and approved by the California State Legislature, to create the Donner Summit Public Utility District, merging what had been two separate districts in Nevada and Placer Counties. The District was originally formed in order to provide the service area with sewer and water facilities for military encampments, civilian repair crews, and tourist facilities, and to allow for public financing of the water and sewer facilities given the high cost of such infrastructure in the mountainous terrain of the Donner Summit area.

¹ The DSPUD has a service contract with the Sierra Lakes County Water District which allows the PUD to provide sewage treatment services to the community. The Sierra Lakes County Water District is located in unincorporated Placer County and it serves the Serene Lakes Community, located near Soda Springs.

BOUNDARY HISTORY

The boundaries of the District were originally formed in 1948. The State Board of Equalization tracks district boundaries. Through the years there have been a number of annexations and detachments, which have led to the current DSPUD boundaries. Since the 2004 MSR, the District boundaries have been changed twice: first in 2008 with the annexation of the remaining territory of Sugar Bowl and most recently in 2013 with the annexation of the Big Bend Mutual Water Company, which was within the Sphere of Influence of the District. In July 2006, the Truckee Fire Protection District annexed the DSPUD fire service area and DSPUD disengaged from provision of fire and emergency services. The current boundaries of the District encompass 8,320 acres, as listed in Table 5-1.

SPHERE OF INFLUENCE

The District’s Sphere of Influence (SOI) has been established and was last updated in 1998. The SOI is approximately 10,000 acres in size, with most of the SOI lying in Placer County as listed in Table 5-1. The District manager has indicated that the SOI boundary is adequate for projected future needs.

Table 5-1: Size of Donner Summit PUD

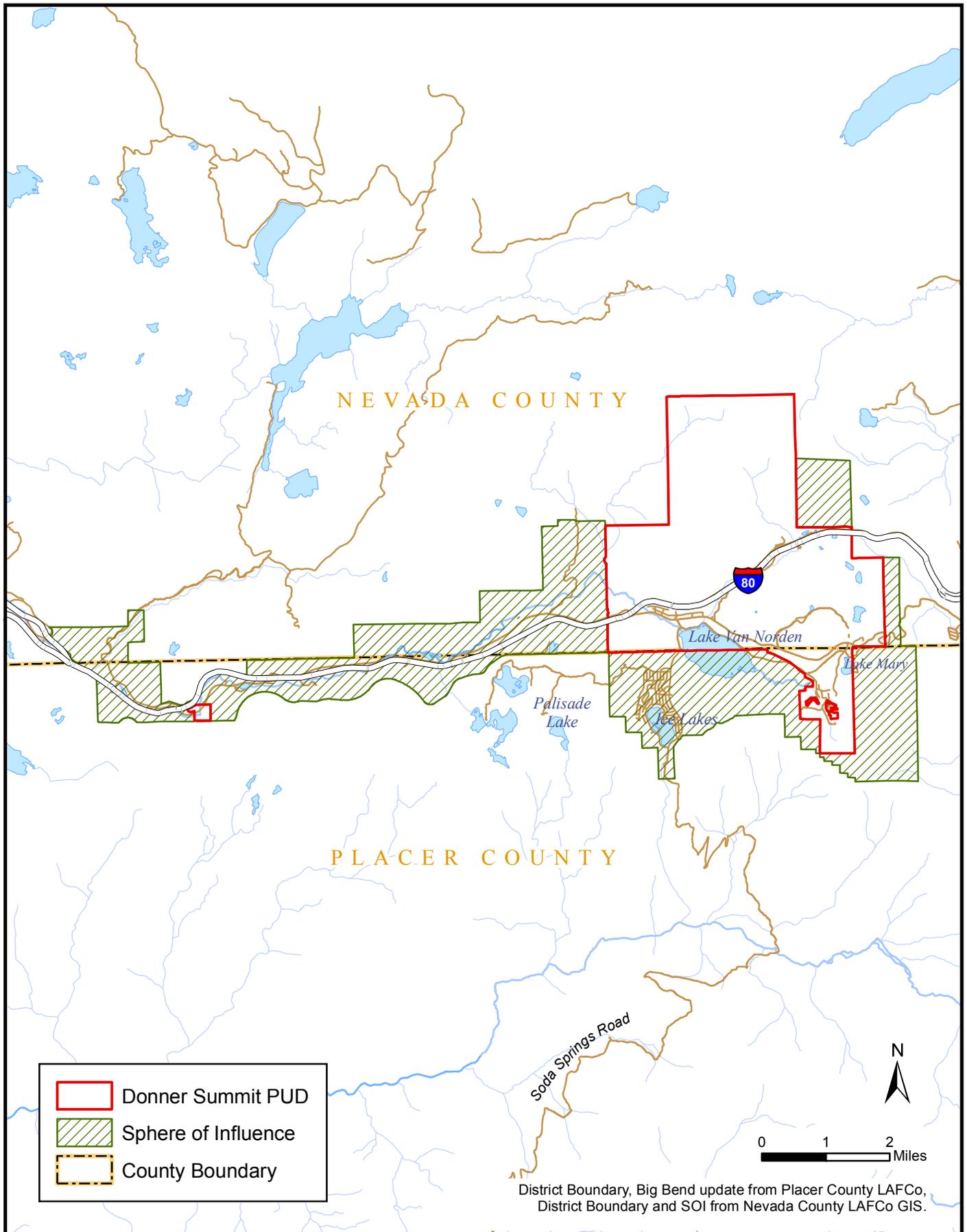
Agency	Size (acres) of boundary area	Number of Parcel’s (APNs) in boundary area	Size (acres) of SOI only**	Number of Parcel’s (APNs) in SOI only
DSPUD in Nevada County	7,823	441*	3,844	706*
DSPUD in Placer County	834	254*	6,249	1358*
Total DSPUD	8,657	695*	10,093	2064*
<p>*Note: Parcel counts are not exact. Sometimes the District boundary crossed part of a parcel. For example, it crossed a third or a half of a large parcel. Also, major highways and some roadways were excluded from the parcel list. **SOI acreage provided does not include the boundary area. Data source: GIS data from Placer County and Nevada County</p>				

EXTRA-TERRITORIAL SERVICES

The DSPUD provides wastewater treatment services for Sierra Lakes County Water District (SLCWD) customers via an Interim Service Agreement. SLCWD provides drinking water and sewer services to its customers in the Serene Lakes area.

AREAS OF INTEREST

No other areas outside the District boundaries have been identified that require services from the District.



District Boundary, Big Bend update from Placer County LAFCo,
 District Boundary and SOI from Nevada County LAFCo GIS.

Figure 5-1

DONNER SUMMIT PUBLIC UTILITY DISTRICT

5.3: ACCOUNTABILITY AND GOVERNANCE

The District is governed by a five-member Board of Directors, who are elected by registered voters within the District boundaries. Regularly scheduled meetings are held on the third Tuesday of the month at 6:00 p.m. Meetings are located at the District office, at 53823 Sherritt Lane, Soda Springs, CA 95728. The current Board Members are as follows:

<u>Name</u>	<u>Role</u>	<u>Date Term Ends</u>
Cathy Preis	President	12/31/2020
Sara Schrichte	Vice President	12/31/2020
Robert Sherwood	Secretary	12/31/2020
Alex Medveczky	Director	12/31/2022
Phil Gamick	Director	12/31/2022

Directors Phil Gamick and Alex Medveczky were appointed by the Nevada County Board of Supervisors (Resolution No. 14-427) rather than through a general election. DSPUD Board candidates for election must reside in and be a registered voter within the Donner Summit PUD boundaries. Although Board Members do not receive any benefits, they are compensated at a rate of \$300 per meeting for the President, \$275 per meeting for the Vice President, \$250 per meeting for Directors, and \$125 per meeting for any Board Member attending special meetings. No Director may receive more than \$4,800 in any calendar year under the provisions of the Public Utility District Code.

In accordance with Government Code § 54954, all meetings are publicly posted on the District's website, at the District office, and at the local post office a minimum of three days prior to regular Board meetings. The District also emails full Board packets to a list of customers who have requested them. Agendas for special meetings are posted in the same locations at least 24 hours prior to the special meeting. Agendas are posted on the District's website prior to regular meetings, and meeting minutes are posted after meetings. For all meetings considered out of the ordinary, including those on proposed projects that may result in rate increases or Proposition 218 issues, an extra notification step is taken: these meetings are posted on the website and sent on post cards and/or letters to all ratepayers.

The attorney for the DSPUD is generally present at Board meetings to ensure compliance with the Brown Act (Government Code §§ 54950-54926), the conflict-of-interest regulations set forth in the Political Reform Act (Government Code § 81000 et seq.), and other applicable laws. DSPUD has adopted a policy manual intended to be a resource for the Board, staff, and public in determining and evaluating the conduct of the District. There is no record of violations of any of the government code sections listed above.

The agenda for each Board meeting includes a public comment period, and the District Board has adopted a policy that establishes a procedure for addressing complaints from the public. Customers with comments or complaints can mail them to the District at P.O. Box 610, Soda Springs, CA 95728. The public can also comment through the District website and attend the meetings of the Board of Directors. The District does not track how many comments or

complaints it receives, but during 2011 and 2012, the District estimates that fewer than 10 comments or complaints were received.

The District has adopted policies addressing budget preparation, fixed asset accounting, investment of funds, and expense authorization. All of these policies are consistent with the California Special District Association's sample policy handbook. Budgets are adopted in public meetings and are available on the DSPUD website and paper copies are made available to the public upon request. As required, the District has an independent audit conducted annually. The most recent financial report was dated June 30, 2018, covering fiscal year 17/18. The FY17/18 financial statement was approved by the Board in January 2019, after the Board heard a presentation by Joe Julio of Gibson & Company, Inc. The audit found that there were no issues of noncompliance with financial regulations that could have an effect on the financial statement.

Placer County has been the principal county for Donner Summit PUD since 2008 (previous to that, Nevada County had been considered the District's principal county, as Nevada County had the greater portion of the entire assessed value of taxable properties within the District's boundaries). Even though most of the geographic territory of the District's boundaries lie within Nevada County, Placer County contains parcels which together have a greater portion of the entire assessed value as shown on the County's equalized assessment roll of all taxable properties.² Therefore, Placer LAFCo adopted an MSR for this District in early 2018 and has authority to update the District's sphere of influence.

5.4: MANAGEMENT EFFICIENCIES AND STAFFING

Day-to-day operations are managed by the General Manager. The General Manager is a full-time employee with control over District water and sewer construction projects and operations. There are eight full-time employees of the District, a reduced number from the 16 full-time employees in 2003 when the District provided fire protection and emergency services. District staff includes a general manager, an office manager, and an administrative assistant. The sewer and water department staff include a chief plant manager and four licensed operators.

The District has adopted a set of policies that address general management, personnel, operations, Board actions, and facilities development. The policies are generally identical to those recommended in the California Special Districts Association "Sample Policy Handbook" which is used by special districts throughout the state.

² See Section 56066 of the Cortese Knox Hertzberg Act for more details regarding determination of the principal county.

5.5: POPULATION AND GROWTH

POPULATION

Soda Springs, where the District office is located and around which the service area is centered, has only a few tourist-oriented commercial uses and a larger number of seasonal residents and second homeowners. The population characteristics for this region were studied in detail in a 2004 Economic Development Study for Donner Summit (Nevada County, 2004). This MSR's analysis of population relies upon the 2004 Economic Study, results of the Federal 2010 census, and other data as cited. Soda Springs was reported to have 81 inhabitants and a population density of 238.6 people per square mile in the 2010 US Census. Soda Springs is located in Census Tract 9. The average household size was 1.98 and there were 41 households. The Community Fact Finder Report (California State Parks, February 2013) estimated that there are 98 permanent residents in Soda Springs. The US Census Bureau Fact Finder identified 136 housing units of which 41 were occupied in the 2010 Census. This means that 30 percent are presumed occupied by permanent residents. For purposes of this study, population growth is projected based on the higher estimate of permanent residents. Relevant population data for the other lands served by the District are not available. The geographic extent of DSPUD's service area is different from the area of Soda Springs identified in the 2010 US Census. The District has not estimated the full-time population of its service area, but does note that there are 93 registered voters within their boundaries. Approximately 331 water and 273 sewer service connections are maintained by the District, with a total of 818.5 equivalent dwelling units (EDUs) served within the District and 816 EDUs served in Sierra Lakes. The higher number of EDUs than service connections is a reflection of the numerous EDUs for commercial connections, such as the Caltrans rest areas which account for two connections but 91 EDUs. It is typical for a residential sewer connection to be served by one EDU. Of the sewer connections, 232 are residential and 41 are commercial. The District encompasses approximately 13.5 square miles (8,657 acres). For the purposes of this analysis, a conservative assumption of Placer County's higher average household size (as compared to Nevada County's) was used. An existing maximum population (i.e. including seasonal visitors) of 737 was calculated (288 water connections³ X 2.56 average household size in Placer County, according to the 2009 Placer County Housing Element Background Report) within the formal District boundaries as shown in Table 5-2, below. The population density of the service area is estimated at 55 people per square mile during peak seasonal timeframes.

³ There are 331 total water connections. 43 water connections are assumed to be used by commercial enterprises. 288 water connections are assumed to be used for residential connections. One residential connection is assumed to equal one dwelling unit.

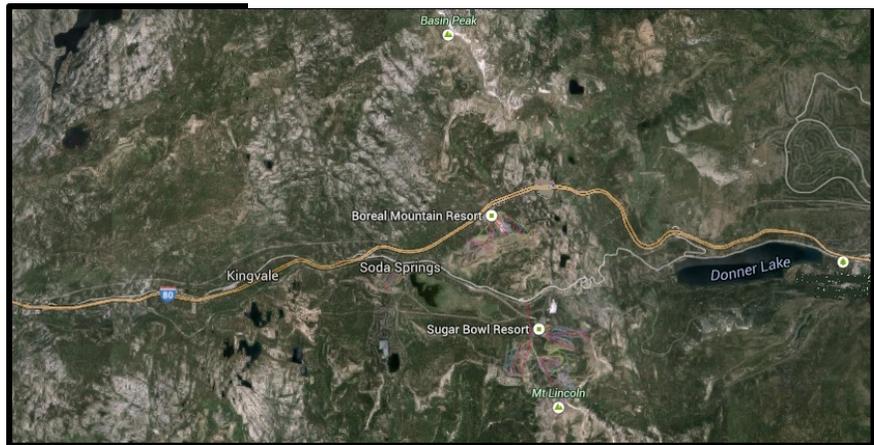
Agency	Number of Registered Voters	Permanent Population (Estimated)	Visitor Population (Estimated)	Total Peak Population (Estimated)
Donner Summit Public Utility District	93	369	368	737

PROJECTED GROWTH AND DEVELOPMENT

The Donner Summit PUD is located in both Nevada and Placer Counties. As a result, lands within the District are subject to two different planning agencies, depending on which County they are located. DSPUD provides sewer service to four primary development centers including Soda Springs, Kingvale/Plavada Woodlands, Boreal Ski Resort/Caltrans Rest Stop, and Sugar Bowl.

The Placer County General Plan serves as the County’s vision for long-term land use development and conservation for the Placer County portion of the District. Placer County’s General Plan adopted on August 16, 1994, and updated May 21, 2013, provides a series of goals, policies, standards, and implementation programs to guide the land use, development, and environmental quality of the County. The land use designation in the western portion of the District within the Placer County is Timberland. The Sugar Bowl area is classified as Agriculture-Timberland, Resort Recreation and Medium Density Residential (3,500 to 10,000 sq. ft. lots) by the Placer County General Plan⁴. Some years ago, a development group proposed to develop what was then the Royal Gorge properties around Lake Van Norden and the Ice Lakes (Serene Lakes) area. This development⁵ would have required both water and sewer service from Sierra Lakes County Water District and Donner Summit PUD.

FIGURE 5-2 AERIAL PHOTO OF SODA SPRINGS AREA



Parcels located in Nevada County are subject to the Nevada County General

⁴ These land use designations reflect existing land uses and development potential in line with the master plan for the Sugar Bowl area.

⁵ For the previously proposed Royal Gorge development, wastewater would have been delivered to Donner Summit PUD for treatment and disposal. The project developer lost the property in bankruptcy and in recent years the Truckee Donner Land Trust (TDLT) acquired the holdings. As such, the TDLT relinquished all development rights/expectations on the former Royal Gorge property. The 10 sewer connections previously associated on these lands have been offered back to the Sierra Lakes County Water District.

Plan, approved by the Board of Supervisors in 1996 and subsequently amended in 2008 (Safety) and 2010 (Circulation/Housing), 2014 (Housing, Noise, Safety) and 2016 (Land Use). The Nevada County General Plan is the long-term policy guide for the physical, economic and environmental future of the County. It is comprised of goals, objectives, policies, and implementation measures, which are based upon assessments of current and future needs and available resources, and which are intended to carry out the four central themes which are critical to the future of Nevada County and its quality of life.

On October 25, 2016, the Nevada County Board of Supervisors approved the Soda Springs Area Plan through Resolution 16-519. The Area Plan establishes policies and accommodates neighborhood commercial land uses to serve the local population and to encourage recreational uses (primarily a formal snow play area, museum, etc.) and economic development. The primary land use designation within the Nevada County portion of the District includes Urban Single family, Urban Medium Density, Recreation, Highway Commercial and Forest -40. As noted above, Soda Springs is the primary community within the Nevada County portion of the DSPUD. While there is a permanent resident population base, Soda Springs is primarily a tourist area with a large percentage of second homes. The Town of Truckee is the closest socioeconomic center to the District area, but is not part of the District’s service area. Although opportunities for new substantial growth or planned residential developments appear to be limited within the DSPUD boundaries, there are future opportunities for infill development and redevelopment as described in Nevada County’s Area Plan.

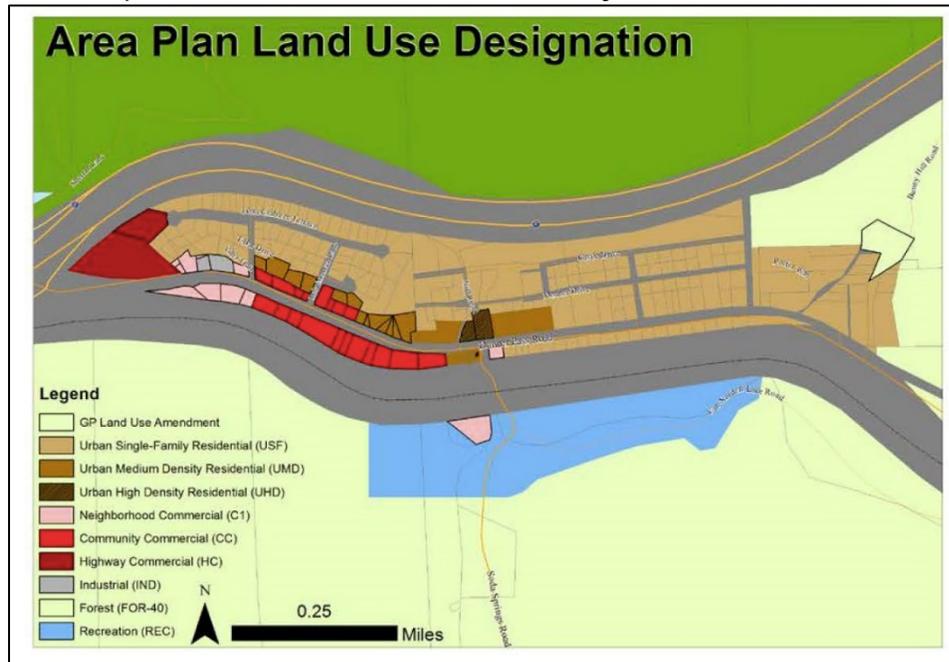


FIGURE 5-3

Since the 2004 Western County Wastewater MSR, the only new construction includes a subdivision of 25 homes at Sugar Bowl and a recreation center for skateboarders and acrobat snowboarders at Boreal. In 2010, DSPUD estimated that there were approximately 300 vacant lots within its boundaries that

could be developed in the future. This potential future development was estimated to generate future sewer service demand of 332 EDU’s (DSPUD, 2010). However, these lots are being developed at a slow pace and the District estimates the current growth rate at less than two

percent, within its boundaries (DSPUD, 2013). In Table 5-3, below, an average annual growth rate is calculated for DSPUD, similar to the calculation for compound interest rates. This future population growth model assumes an average annual (compound) growth rate of one-half percent. This leads to a projected 2040 population of 835 persons which is 13 percent higher than the 2015 population of 737 persons. It is important to note that approximately half the population shown in Table 5-3 will likely be overnight visitors.

Year	2015	2020	2025	2030	2035	2040
Projected Population	737	756	775	794	814	835

Additionally, DSPUD’s 2010 Water Facilities Plan also estimated that there were vacant lots within Serene Lakes area and the potential future development of those lots could generate sewer service demand for an additional 80 EDUs (DSPUD, 2010). However, the future development potential in Serene Lakes (SOI 2005-2025 area) is substantially decreased with the recent acquisition of lands by the TDLT.

DISADVANTAGED UNINCORPORATED COMMUNITIES

LAFCo is required to consider the provision of public services to disadvantaged unincorporated communities (DUCs). Relevant data were reviewed for the Donner Summit area. The Donner Summit PUD boundaries, its SOI, and adjacent areas all contain DUC’s. The U.S. Census has prepared estimates for the year 2013, based upon actual 2010 census data of the median household income (MHI) for the 95728 zip code as \$42,574.⁶ This is lower than the DUC threshold MHI of less than \$48,706 (80 percent of the statewide MHI). Additionally, the Department of Water Resources (DWR) has developed a web-based application to assist local agencies and other interested parties in evaluating disadvantaged community (DAC) status throughout the State. The DAC Mapping Tool is an interactive map application that allows users to overlay the following three US Census geographies as separate data layers: 1) Census Place; 2) Census Tract; and 3) Census Block Group. Only those census geographies with an annual median household income (MHI) that is less than 80 percent of the Statewide annual MHI (PRC Section 75005(g)) is shown on the map. The Soda Springs area meets the definition of a DAC (and DUC) for all three types of geographies (DWR, 2015). It should be noted that the portion of the PUD’s boundaries that lies within Nevada County seems to contain most of the DUC area. The residences and business that are within the District’s boundaries do receive adequate water, wastewater, and fire protection services as detailed in Placer LAFCo’s 2018 MSR for this region. No public health and safety issues have been identified in the DUC area.

⁶ 2010 census data via American Fact Finder website at:
<http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>.

5.6 DISTRICT SERVICES

SERVICE OVERVIEW

The District provides water treatment and distribution, and wastewater collection and treatment services within the service area. Fire protection and emergency services were transferred to the Truckee Fire Protection District in 2006, and those services were deleted from the District’s responsibilities on July 1 of that year. This MSR focuses only on the provision of municipal water treatment and distribution services by DSPUD.

WATER SERVICE

DSPUD provides water service to the communities of Norden and Soda Springs; to east- and westbound Caltrans rest areas off Interstate 80 west of Truckee; and to the ski resorts of Sugar Bowl, Soda Springs Resort, and Donner Ski Ranch. Recycled water may be provided, as needed, for road repairs on Interstate-80, dust control, and erosion control projects in the vicinity.

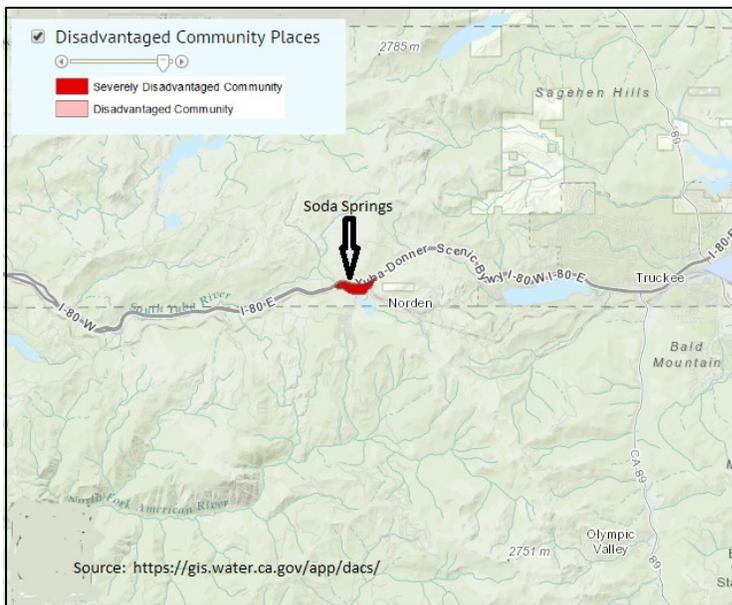


FIGURE 5-4

which it owns and operates along with a dam permitted by the Division of Dam Safety (DWR, 2013). Lake Angela is located near the peak of Donner Summit at 7,280-foot elevation. The 75 million-gallon lake is fed by snow melt and spring sources. The District has indicated that it owns most of the watershed and water usage is monitored. Public access to the Lake can be obtained via a few informal hiking trails in the area. The Donner Summit PUD works to balance the protection of water quality with public access.

The District holds a State water permit for treatment and delivery of drinking water used for municipal purposes. The water system and plant are inspected annually by the State Water Resources Control Board Division of Drinking Water (DDW). The Division of Dam Safety also performs an annual inspection of the dam at Lake Angela. The Nevada and Placer County Departments of Public Health annually review a permit for the water treatment plant.



Photo By Edewaa Foster On Unsplash

Figure 5-5: View of Lake Angela Dam

DISTRIBUTION AND TRANSMISSION OF WATER

DSPUD treats water and distributes it to domestic users, including residential, commercial, lodging, and resort users, throughout the service boundaries. Water from Lake Angela is processed through a nearby treatment plant. The plant's capacity is estimated at 0.50 mgd. from the treatment plant, distribution lines run west along Donner Pass Road and serve that corridor, as well as the communities of Soda Springs and Norden. Sugar Bowl is also connected to this system. Additionally, the district provides water distribution parallel to Interstate 80, between Soda Springs and the CALTRANS rest area. Altogether, the District delivers water through approximately 11 miles of pipe, and the distribution system consists of PVC and ACP pipe in sizes varying from 6 to 12 inches. The system includes a number of storage tanks and pressure-regulating devices to serve the various pressure zones over the variable elevations of the district. There is enough capacity in the distribution system to roughly double the existing number of services. All water service is metered.

SUPPLY AND DEMAND FOR SERVICE

Supply and demand for water and sewer districts are typically impacted by development occurring within the District that could result in an increase in the demand for these services and the need for additional infrastructure. Other factors that impact supply in the District are prolonged drought and algae in Lake Angela. Minimal development is expected to occur within the District because the area is an isolated community with little growth projected.

WATER

The average annual total supply of water from Lake Angela is 310 acre-feet (AF), while the historic annual water supply taken from 2005 to 2012 has been 262.7 AF. Demand rises in the winter months due to the seasonal ski resort population. The winter peak use is 6.5 million gallons (mg) or 23.2 AF per month, and summer peak use is 4.6 mg or 16.4 AF a month. According to the District Manager, the District anticipates having sufficient water supplied for anticipated development in the foreseeable future.

INFRASTRUCTURE AND FACILITIES

This section describes the existing infrastructure associated with the provision of water and sewer services by the District. The District owns and operates Lake Angela and the dam on the lake. The sewer facilities at 53283 Sherritt Lane are situated on land leased by the US Forest Service, Tahoe National Forest.

WATER SUPPLY

The District owns and operates its sole water source, Lake Angela, as well as all related facilities such as the dam on Lake Angela and the infrastructure used to deliver the water. Lake Angela has a holding capacity of 310 acre-feet, while the District has water rights of 265 acre-feet annually⁷.

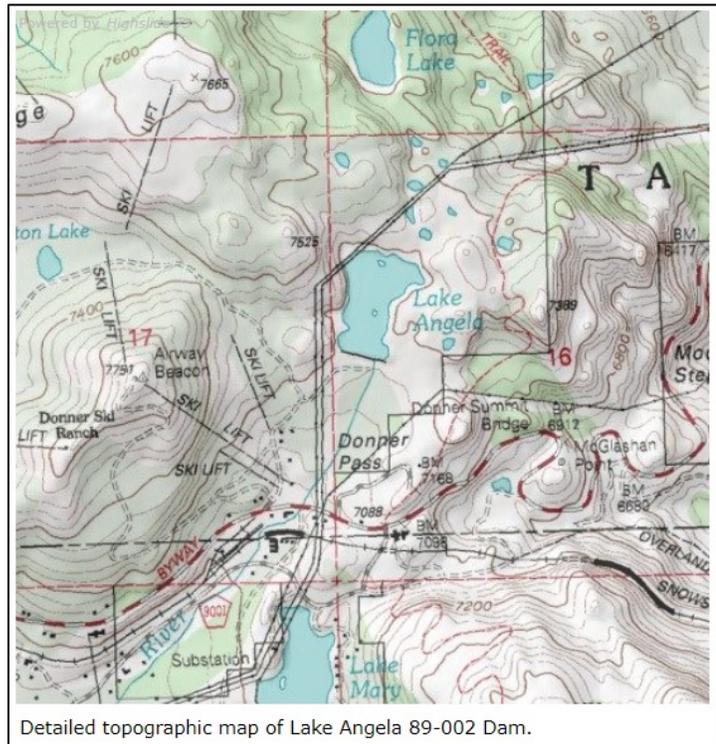


FIGURE 5-6

Lake Angela has a dam (#89-002), which retains the water in the Lake (DWR, 2013). SB92, effective June 2017, requires owners of state jurisdictional dams to prepare inundation maps and emergency action plans for dams classified as extremely high hazard, high hazard and significant hazard. Lake Angela Dam is classified as a potential high hazard. The District has contracted with a licensed engineer to prepare an analysis of the dam and associated inundation maps (DSPUD, 2019). An Emergency Action Plan will also be prepared, in compliance with state law.

⁷ See California Environmental Protection Agency, State Water Resources Control Board, Division of Water Rights. Permit for Diversion and Use of Water, Permit 21118. February 8, 1994.

WATER TREATMENT PLANT

Although the natural water supply from Lake Angela is relatively high quality, it does require treatment to meet statewide regulatory safe drinking water standards. After 18 months of construction, the DSPUD Water Treatment Plant upgrade project is complete. One significant upgrade includes the two clarification/filtration treatment basins, which addressed the high levels of turbidity recently found in the potable water supply. The new system filters out the turbid conditions caused by the abundance of algae from the District's water source, Lake Angela (DSPUD, 2019).

The upgraded plant also has the capacity to treat 1.0 MGD of water daily. This change was required to meet state mandated regulation to have redundant basins, each having the capacity to process 0.5 MGD. The two-basin system provides a back-up in the event the other basin becomes unusable for any length of time and during normal plant maintenance (DSPUD, 2019). Other upgrades include improvements to the existing clearwell, which will maximize the effectiveness of chlorine by using more contact time and less chlorine, an upgrade to the chemical feed facility and replacing the old, deteriorating 24" raw water pipeline with 12" robust PVC pipe (DSPUD, 2019).

In the year 2013, DSPUD annexed the Big Bend Mutual Water Company (BBMWC), a "non-transient community water system" which had been operating without a permit and under a "Boil Water" notice for eight years due to the fact their ground water source was under the influence of a surface water source. Previously, DSPUD had been operating, maintaining, and managing the Big Bend Mutual Water Company's service. Twenty-nine homes, most of them seasonally occupied, are currently served by the DSPUD in the Big Bend area. As part of its responsibilities, DSPUD has initiated the Big Bend Water Treatment Plant and Distribution Lines Project. This project focuses on a water distribution system utilizing a Forest Service parcel. The Project cost is now estimated at \$382,000. DSPUD has retained Sauers Engineering to advise them on the project and associated costs.

WATER QUALITY

Water quality is an on-going concern for all water service providers in California. Surface water supplies in the Sierra Nevada mountains generally yield very high-quality water. The quality of drinking water is regulated by a complex suite of local, state, and federal regulations as described in Appendix 9: Municipal Water Regulations. On the western slope of the Sierra Nevada, the Central Valley Regional Water Quality Control Board has primary jurisdiction on water quality issues. In May 2018, the Central Valley RWQCB adopted the Basin Plan for the Sacramento River Watershed, which includes the Donner Summit and Soda Springs Area (RWQCB, 2018). In June 2015, the State Water Resources Control Board (SWRCB) adopted the Safe Drinking Water Plan for California. This Drinking Water Plan contains a comprehensive description of regulations that affect the providers of drinking water and this Plan is available on the SWRCB website at: <http://www.waterboards.ca.gov/publications>

[_forms/publications/legislative/docs/2015/sdwp.pdf](#). California’s California Health and Safety Code is also relevant to the quality of drinking water.

In 2014, California moved responsibility for drinking water programs from the California Department of Health to the Water Resources Control Board. Every community water supplier must provide an annual report, called a Consumer Confidence Report (CCR), to its customers and these reports are available on-line at https://www.waterboards.ca.gov/drinking_water/programs/. The report provides information on local drinking water quality, including the water’s source, contaminants found in the water, and how consumers can get involved in protecting drinking water. In the past, DSPUD experienced high turbidity levels in its municipal water post-treatment. High turbidity was a concern because it can sometimes pose health risk for consumers as pathogens may contaminate treated drinking water. The District is working to improve its water treatment system as detailed on its website at: https://www.dspud.com/assets/pdf/DSPUD_water_quality_2016.pdf. To remedy the turbidity issue, the PUD installed two clarification/filtration treatment basins to filter out the turbid conditions caused by the abundance of algae from the District’s water source, Lake Angela.

As part of this MSR analysis, the consultants queried three on-line water quality databases:

- CA Drinking Water Watch
- California Integrated Water Quality System Project (CIWQS) database
- Environmental Working Group’s Tap Water Database

The CA Drinking Water Watch database is available on-line at: <https://sdwis.waterboards.ca.gov/PDWW/index.jsp>. The DSPUD is listed as water system number CA2910016. This database shows that the District’s 2017 CCR is readily available and for the water quality constituents listed in the CCR, all were within acceptable parameters with one exception. A 2017 test shows that iron is present in the treated water, most likely derived from leaching from natural deposits, at a level that is slightly higher than the standard, but within a margin of error. The CA Drinking Water Watch database also reports a total of eleven water quality violations, which were received during the years 1991 to 2012. As previously noted, DSPUD is working to address water quality issues.

Figure 5-7: Copy of CA Drinking Water Watch Database							
<u>Individual Violations</u>							
Violation No.	Status	Violation Type	Violation Name	Analyte Code	Analyte Name	Water System Facility State Asgn ID	Water System Facility Name
2012-1221009	V	41	Res Disinfect Concentration (SWTR)	0200	SWTR	null	null
2009-9221003	V	41	Monthly Comb. Filter Effluent (SWTR)	0100	TURBIDITY	002	LAKE ANGELA - TREATED

2009-9221002	V	41	Monthly Comb. Filter Effluent (SWTR)	0100	TURBIDITY	002	LAKE ANGELA - TREATED
2009-921008	V	41	Res Disinfect Concentration (SWTR)	0200	SWTR	null	null
2009-921006	V	41	Res Disinfect Concentration (SWTR)	0200	SWTR	null	null
2009-921007	V	41	Res Disinfect Concentration (SWTR)	0200	SWTR	null	null
2008-821005	V	41	Res Disinfect Concentration (SWTR)	0200	SWTR	null	null
2008-821004	V	41	Res Disinfect Concentration (SWTR)	0200	SWTR	null	null
2008-821003	V	41	Res Disinfect Concentration (SWTR)	0200	SWTR	null	null
1992-9221001	V	36	Monitoring, Rtn/Rpt Minor (SWTR-FILTER)	0200	SWTR	null	null
1991-9121002	V	03	Monitoring, Routine Major	2990	BENZENE	null	null
Total Number of Records Fetched = 11							

Additionally, the Big Bend water system, which DSPUD operates, did receive several water quality citations for the years 2014, 2016, and 2017 from the State Water Resources Control Board Drinking Water Division. The presence of coliform, a bacterium, was detected in lab samples and as previously noted, the DSPUD is working to address this problem.

The CIWQS database is available on-line at: <https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet>. Although this database query yielded notes about the PUD’s sewer system, there are no records of any water quality issue associated with the DSPUD drinking water system.

Environmental Working Group’s (EWG) Tap Water Database is available on-line at: <https://www.ewg.org/tapwater/>. EWG’s drinking water quality report shows results of tests conducted by DSPUD and provided to the Environmental Working Group by the California State Water Resources Control Board, as well as information from the U.S. EPA Enforcement and Compliance History database (ECHO). The query result shows that for the latest quarter assessed by the EPA (July 2017 - September 2017), tap water provided by DSPUD was in compliance with federal health-based drinking water standards.

5.7: FINANCING

This Section provides an overview of financial health and provides a context for the financial determinations that the CKH Act requires of LAFCo. The audited Comprehensive Annual Financial Reports (CAFR) from the DSPUD for the fiscal years 13/14, 14/15, 15/16, and 16/17 are the primary source of information for this Chapter. DSPUD updates their financial data annually and readers are advised that the most recent financial data for the PUD can be found on the District’s website at: <http://www.dspud.com/fiscal.php>. Based on recent

recommendations from the Little Hoover Commission, this determination on the financial ability to provide services is based upon several key financial performance indicators that are shown in tables in the following pages.

In California, special districts are classified as enterprise or non-enterprise districts, based on their source of revenue:

- Enterprise districts: Finance of district operations is via fees for public service. Under this model, the customers that receive goods or services such as drinking or sewer water, - disposal, or electricity, pay a fee. Rates are set by a governing board and there is a nexus between the costs of providing services and the rates customers pay. Sometimes enterprise district may also receive property taxes which comprise a portion of their budget.
- Non-enterprise districts: Districts which receive property taxes are typically classified as non-enterprise districts. Services that indirectly benefit the entire community, such as flood or fire protection, community centers, and cemetery districts are often funded through property taxes.

DSPUD receives a portion of the Nevada County and Placer County property taxes assessed on owners within the District boundaries. However, since most of the revenue is derived from fees for service, for purposes of this MSR, DSPUD is considered an enterprise district. Details about the fees charged for water collection and distribution services are provided on the following pages.

FINANCIAL POLICIES & TRANSPARENCY

DSPUD prepares an annual budget and an annual financial statement, both of which are reviewed in public meetings and made available to the public via the District's website. The financial statement includes an independent auditor's report. The fiscal year begins on July 1 and ends on June 30. The audit for FY 16/17 (DSPUD, 2017) prepared by Gibson & Company, Inc., CPA, found that there were no issues of noncompliance with financial regulations that could have an effect on the financial statement⁸. Funding for upgrades to the -water and water treatment plants has come from Federal and State loans. The Board began work on a Capital Improvement Plan (CIP) in 2015. The CIP will mostly focus on smaller CIP projects.

⁸ Donner Summit PUD and Gibson & Company Inc. CPA of Sacramento. Financial Statement for FY 15/16. November 2016.

A summary of financial policy indicators is shown in Table 5-4 below.

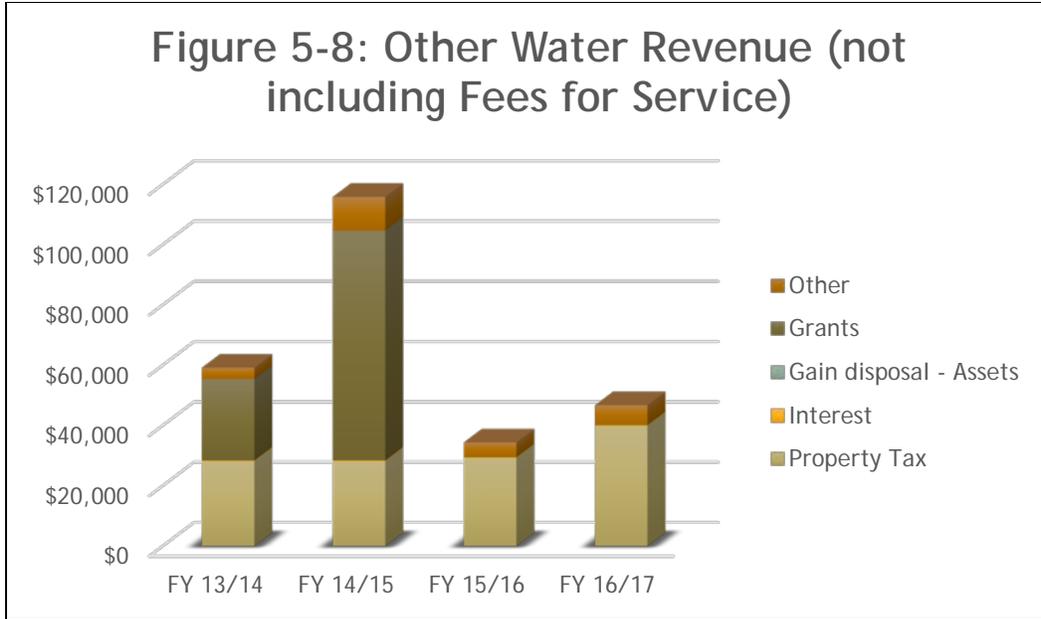
Table 5-4: Summary of DSPUD Financial Policies & Transparency Indicators		
Indicator	Score	Notes
Summary financial information presented in a standard format and simple language.	✓	The annual CAFR and budgets clearly and transparently present financial information
District has a published policy for reserve funds, including the size and purpose of reserves and how they are invested	0	Insufficient data
Other financing policies are clearly articulated	0	Insufficient data -
Compensation reports and financial transaction reports that are required to be submitted to the State Controller's Office are posted to the district website	✓	Wage scale for staff positions is listed within the annual DSPUD budget which is posted on the District website.
Key to score: ✓= Above average (compared to similar water districts) △= Average 0= Below average		

REVENUES AND EXPENSES

This section focuses on sources of revenues and expenses associated with the District’s water systems. A miscellaneous amount of financial data is also provided for the District’s sewer system for comparison purposes.

Revenue

The District receives revenue from several sources including customer fees, property tax, grants and other sources. Most of these revenues are utilized in the District’s general fund. The primary source of revenue for the water system during most fiscal years is the Customer Service Fees for water service. In addition to water service fees, the District also receives revenue from several other sources including: property tax, interest, gain disposal - assets, grants, and other. The amount of these other revenues received varies annually as shown in Figure 5-8, below.



Data Source for Figure 5-8 is DSPUD CAFR

Revenues received from water service fees are quite stable on an annual basis as shown in Table 5-5, below. The annual average amount of fees received during the five fiscal years studies is \$383,428 annually. FY 16/17 exceeded this average and received \$417,181 in water service fees.

Table 5-5: Donner Summit PUD Summary of Revenues

Revenues	FY 2011/2012 Per audited financial statement	FY 2013/2014 Per audited financial statement	FY 2014/2015 Per audited financial statement	FY 2015/2016 Per audited financial statement	FY 2016/2017 Per audited financial statement
Customer Service Fees for Water Service	\$387,695	\$370,710	\$363,828	\$377,730	\$417,181
Customer Service Fees for Waste Water Service	\$2,335,612	\$1,734,339	\$2,088,224	\$2,208,373	\$2,155,897
Property tax	\$118,208	\$417,000	\$411,000	\$424,813	\$462,063
Interest Income (non-operating)	\$491	\$17,000	\$36,000	\$973	\$1,263
Other Income	\$32,047	\$27,000	\$76,000	-17,181	\$25,282
Contributed capital	\$885,632	\$5,734,000	\$874,000	\$676	\$67,765
Total	\$3,759,685	\$8,300,049	\$3,849,052	\$2,995,000	\$3,129,451

Note 1: The values for property tax, interest income, other income, and contributed capital shown in Table 5-5 above, combine both water and sewer revenues into the listed value.

Note 2: The \$5.7 million listed in contributed capital for 2013 and 2014 was related to the PUD's sewer system and construction of the new wastewater treatment plant. The Serene Lakes County Water District is/was a partner in this project and agreed to contribute 44% of the project costs. Contributions made by Sierra Lakes County Water District is recognized as contributed capital in the Financial Statements (DSPUD, 2014).

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Expenses

Operating the water system necessitates the expenditure of funds and DSPUD accounts for water system expenditures separately from expenditures related to the sewer system. For the water system, expenditures in in FY 16/17 were half a million dollars (\$526,080) as listed in Table 5-8, and the four largest expense categories were:

- employee salaries/benefits (\$268,397),
- utilities and communications (\$49,346),
- depreciation (\$64,641), and
- facility maintenance (\$29,708)

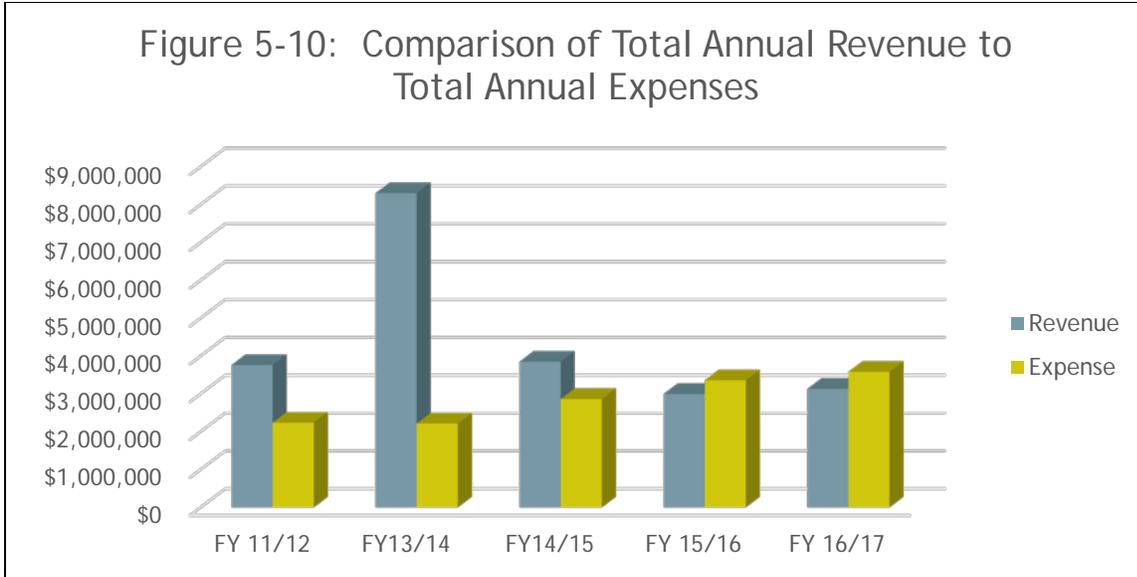
For FY 2016/17, total expenses of \$3,580,268 for the PUD included administrative expenses, depreciation of capital assets, for the costs of providing both sewer and water services. Total expenses incurred during the past five years is shown in Table 5-6, below.

Fiscal year	Expense Amount
FY 11/12	\$2,237,960
FY13/14	\$2,214,192
FY14/15	\$2,862,836
FY15/16	\$3,357,989
FY16/17	\$3,580,268

Data Source: Audited Financial Statements by DSPUD FY 11/12, 13/14, 14/15 and 15/16

Utility expenses have been trending upward in recent years. The DSPUD budgeted \$214,549 for its utility, communications, and telemetry expenses in the FY 2012-2013 budget. This amount accounted for 10.6 percent of the District’s expenses. In the FY 17/18 budget, the utility line item increased to \$327,594 (DSPUD, 2017). In the long-term future, the District could explore the use of new technology to develop and capture renewable energy to reduce its annual expenditures on utility costs. The District should investigate efficiencies in its electricity use, which will require proper budgeting for energy efficiency consultation. (See also the Sept. 19, 2018 comment letter from DSPUD provided in Chapter 6.)

Comparing revenues to expenses provides an analysis of the overall fiscal health of the enterprise funds and serves to assess the financial ability of the PUD to provide both water and wastewater services. In Figure 5-10 (below), the total annual revenue listed in Table 5-5 is compared with the total annual expenses listed in Table 5-6. Revenues exceeded expenses in three of the five study years. However, in FY 15/16 and 16/17 expenses slightly exceeded revenues.



The District's assets exceeded liabilities at the close of fiscal year 14/15 by \$13 million. This represents the net position (value) of the District as of June 30, 2015. However, during the year from FY 14/15 to 15/16, the net position declined to a total of \$12.7 million. In FY 16/17 the net position declined to 12.25 million as shown in Table 5-7, below.

Table 5-7: Net Position FY 15/16 and 16/17

Source: DSPUD, 2017

For the Year Ended June 30, 2017		
OVERVIEW OF THE FINANCIAL STATEMENTS		
Our analysis below focuses on the net position and changes in net position of the District's governmental and business-type activities.		
Net Position (In Thousands)		
	Primary Government	
	Business-Type Activities	
	June 30, 2017	June 30, 2016
Current and other assets	\$ 3,671	4,391
Capital assets	27,549	26,118
Total Assets	<u>31,220</u>	<u>30,509</u>
Deferred Outflows of Resources	<u>109</u>	<u>113</u>
Long-term debt outstanding	17,867	16,688
Other liabilities	1,212	1,234
Total Liabilities	<u>19,079</u>	<u>17,922</u>
Net Position		
Net investment in capital assets	9,080	8,612
Restricted for debt payment	862	857
Unrestricted	2,308	3,231
Total Net Position	<u>\$ 12,250</u>	<u>12,700</u>
Changes in Net Position (In Thousands)		
Program revenue	\$ 2,573	2,586
General revenues		
Property tax	462	425
Grants	-0-	(37)
Gain (loss) on disposal of capital assets	1	1
Interest and other	25	20
Contributed capital	69	-0-
Total revenues	<u>3,130</u>	<u>2,995</u>
Expenses	3,580	3,358
Increase (Decrease) in net position	<u>\$ (450)</u>	<u>(363)</u>

Table 5-8: Statement of Activities and Changes in Net Position
 Source: DSPUD, 2017

DONNER SUMMIT PUBLIC UTILITY DISTRICT			
Statement of Activities and Changes in Net Position			
For the Year Ended June 30, 2017			
	Water	Sewer	Primary Government
			Business-Type Activities
Program Revenue			
Service fees	\$ 417,181	2,155,897	2,573,078
Total Program Revenue	417,181	2,155,897	2,573,078
Expenses			
Salaries	202,944	684,659	887,603
Employee benefits	65,453	222,743	288,196
Board expense	6,809	21,560	28,369
Professional fees	24,156	236,295	260,451
Equipment maintenance and repair	12,438	56,920	69,358
Operating supplies	7,894	18,504	26,398
Vehicle maintenance and repair	5,109	32,801	37,910
Facility maintenance and repair	29,708	35,213	64,921
Dues and subscriptions	2,037	11,391	13,428
Fees, permits and certifications	15,430	23,269	38,699
Training and education	712	3,330	4,042
Travel	1,061	630	1,691
Insurance	13,431	46,233	59,664
Office supplies	2,913	12,129	15,042
Utilities, communications and telemetry	49,346	317,380	366,726
Chemicals and lab supplies	15,291	146,949	162,240
Laboratory testing	273	44,151	44,424
Small tools and rental	6,434	17,822	24,256
Sludge removal	-0-	16,625	16,625
Depreciation	64,641	703,534	768,175
Interest	-0-	381,159	381,159
Land lease	-0-	20,891	20,891
Total Expenses	526,080	3,054,188	3,580,268
Net Program Revenue (Expense)	(108,899)	(898,291)	(1,007,190)

Although the above table shows that water program expenses exceeded revenues, the District also receives property tax which does offset a portion of the difference. Additionally, the District has \$3.2 million in cash and investments available to offset the difference as needed.

The District's budget for FY 17/18 predicts that revenues will exceed expenditures for the year (DSPUD, 2017).

A summary of revenue and expenditure indicators is shown in Table 5-9 below.

Summary Scores Revenues, Expenditures, and Net Position

Table 5-9: Summary of Indicators Revenues, Expenditures, and Net Position		
Indicator	Score	Notes
Revenues exceed expenditures in 50% of studied fiscal years	√	Total revenue was less than the operating expenditures in only two of the five study years. It is recognized that capital improvement projects are expensive and necessary. Many -water districts in California are in a similar situation.
Increases or decreases in net position	△	The District's assets exceeded liabilities at the close of the fiscal year by \$12,249,616. This represents the net position (value) of the District as of June 30, 2017. Changes to the Net Position are shown in Table 5-7 to be variable. However, the decline in Net Position of -\$450,000 in FY16/17 was predominately due to an increase in expenses as compared to the previous year.
Key to score: √= Above average (compared to similar water districts) △= Average 0= Below average		

RATE RESTRUCTURING

WATER

During a public hearing held June 21, 2016, Donner Summit Public Utility District's Board of Directors approved and adopted a 12.5% water rate increase effective July 1, 2016. Funds from water rates will finance a necessary upgrade to the water treatment plant, maintain reserves for plant maintenance and operation and pay off debt.

Consistent with adopted Ordinance 03-2016 (which modified Ordinance 2008-02), rates are based on the service size (the diameter of the pipe servicing the connection). A specific number of gallons per month are allotted to each service connection based on the service size. All water is metered. The rates are listed in Table 5-10, below.

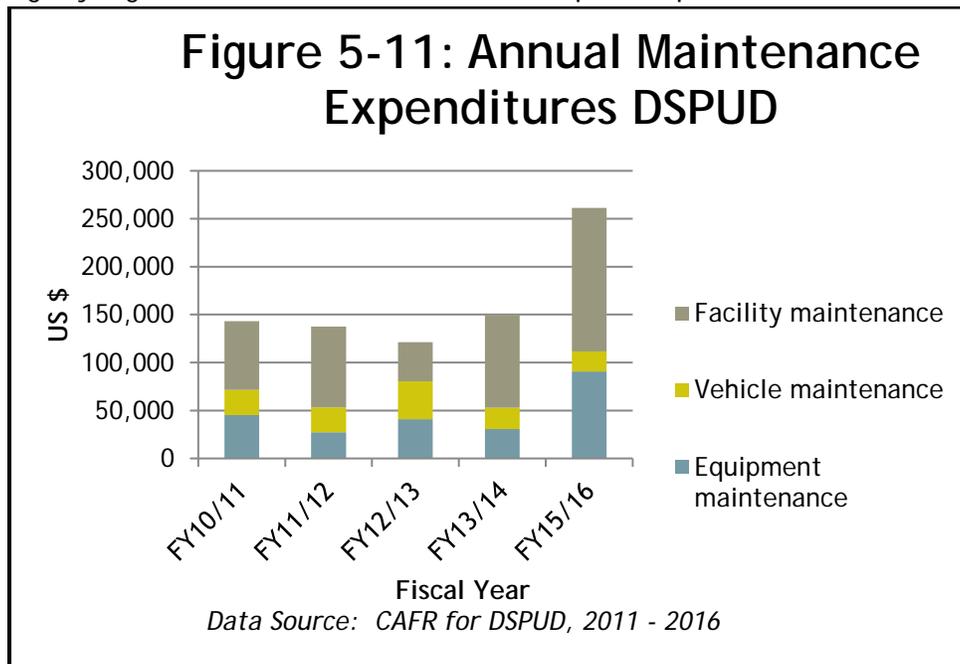
Service Size (inches)	Gallons Allowed per Month	Cost per Gallon	Rate per Month (2016)*	Rate per Year (2016)*
¾ inch	10,000	0.005627	\$56.27	675.23
1 inch	18,500	0.005627	\$104.10	\$1,249.18
1 ½ inch	25,000	0.005627	\$140.67	\$1,688.09
2 inch	40,000	0.005627	\$225.08	\$2,700.94
3 inch	65,000	0.005627	\$365.75	\$4,389.02
4 inch	175,000	0.005627	\$984.72	\$11,816.60
5 inch	262,000	0.005627	\$1,474.26	\$17,691.13
6 inch	350,000	0.005627	\$1,969.43	\$23,633.19

**Rates will increase slightly during years 2017 to 2021 consistent with the rate ordinance*

DSPUD Rate Indicator	Score	Notes
Rates were adopted by the Board of Directors	✓	PUD's Board of Directors adopted water rates as part of Ordinance 03-2016 on June 21, 2016 and this is available on the DSPUD website.
Rates are consistent with requirements of the State Water Resources Control Board and the process for adopting rates are consistent with Proposition 218	✓	PUD's Board of Directors adopted water rates as part of Ordinance 03-2016 on June 21, 2016 and this is available on the DSPUD website.
Rates are readily available to constituents	✓	Rates are transparently displayed on the District's website.
Key to score: ✓= Above average (compared to similar water districts) △= Average ○= Below average		

ASSET MAINTENANCE AND REPLACEMENT

The Donner Summit PUD owns the water treatment plant and distributes drinking water to its customers in a series of pipelines. DSPUD also owns a sewage collection, treatment and disposal infrastructure along with delivery pipelines. These capital assets are depreciated over their estimated useful lives. Although the PUD does not have a formal policy regarding depreciation of assets, the audited financial statement analyzes depreciation in a manner consistent with standard accounting practices. Asset maintenance is typically a significant issue for a District; however, the PUD's infrastructure is a mix of newer facilities such as the water treatment plant (and sewage treatment plant) and older facilities such as the water delivery pipelines. Historically, the PUD budgeted an average of \$134,000 annually for maintenance projects on both the water and sewer system that are implemented on an as-needed basis. However, in FY 15/16 this expense increased to \$261,467 as shown in Figure 5-11. For FY 17/18 the PUD's annual budget allocates only \$13,000 for facility maintenance and repair (DSPUD, 2017). The transmission/collection pipes for both the water and sewer system are aging and the District may face slightly higher levels of maintenance and capital improvement costs in the future.



CAPITAL IMPROVEMENTS

In the past, the District planned for and implemented capital improvements on an as-needed basis. The District recognizes that it is difficult to determine whether or not existing rates are sufficient to pay for future operational improvements without a formal capital improvement plan. Although a capital improvement plan was not provided to the MSR consultants, the District's General Manager has indicated that the Board is interested in documenting and planning for future capital improvements and will likely develop a capital improvement plan in the near future⁹.

⁹ Personal Communication with General Manager Tom Skjelstad, Donner Summit PUD, September 11, 2013

LONG-TERM LIABILITIES AND DEBTS

Improvements to the water system are considered a capital expenditure. For the main drinking water treatment plant, the District recently upgraded two clarification/filtration treatment basins and made improvements to the existing clearwell, which improved chlorine contact time. The chemical feed facilities were also reviewed. The upgraded water treatment plant provides redundancy for a more reliable treatment process. The project cost is approximately \$2.5 million. DSPUD secured funding through the State of California. Given that the District serves a Small Disadvantaged Community, DSPUD qualified for a state grant, which funded 80% of the construction cost. The remaining 20% is financed through a secured state loan. A water rate increase of 12.5% was approved in 2016 to finance the loan debt. Construction concluded in 2017.

Additionally, upgrading the sewage treatment plant and associated facilities represents a significant capital improvement and improvements related to wastewater infrastructure is discussed in Nevada LAFCo's 2018 MSR on Eastern County Wastewater Services, published separately.

COST AVOIDANCE

The District has sought cost-saving opportunities where feasible. The District avoids the cost of room rental for meetings by holding public meetings at the District office, on property the District leases from the US Forest Service. Often, employing staff directly rather than hiring consultants saves money. The District employs eight full-time personnel, including a general manager, office manager, administrative assistant, a chief plant manager, and four licensed operators. The water and wastewater department share staff, information, and other resources to maintain an efficient work environment and keep rates as low as possible. In another example, the District sought and received low-interest, low-cost financing for the wastewater treatment plan upgrades, and has applied for and received grants to offset some costs. When the District purchased two new service trucks in 2012 through the State purchasing program, it resulted in some cost savings. In the past, the PUD has had limited staff wage freezes as needed and these also produce cost savings. They also outsourced the annual installation and tear-down of a fence surrounding a holding pond, and have implemented a policy to use on-call personnel to resolve most alarms at the water and -water treatment plants by utilizing a SCADA system, thus reducing overtime costs.

The District provides -water treatment to SLCWD. The District does not share other facilities or equipment with other districts or agencies.

CHALLENGES

The District has identified no regulatory issues, infrastructure issues, or other challenges within the next 12 months. However, similar to many other water districts in California, the DSPUD has seen the cost of compliance with state regulations regarding water quality become

increasingly more expensive. Given that DSPUD is small in size, complying with water quality regulations will remain a challenge in the near future.

5.8: SERVICE ADEQUACY

The District's facilities are currently sized to adequately serve the existing connections within the service area. Water supply has historically exceeded demand by approximately 45 to 50 acre-feet, and all new developments are conditioned on the availability of water to serve the projects at the time of construction.

5.9: OPPORTUNITIES TO SHARE FACILITIES

The District holds its meetings at the District office at 53823 Sherritt Lane, Soda Springs, CA 95728. The District offices are on the site of the wastewater treatment plant. DSPUD is geographically separated from other agencies in Nevada and Placer Counties, making its participation in expanded sharing opportunities with the other water providers less feasible. However, there are opportunities for expanded sharing within the sub-regional area served by the DSPUD that might result in economies of scale, cost savings, and regional environmental benefits.

Both DSPUD and SLCWD have population bases that fluctuate seasonally and both have relatively few registered voters. This results in a relatively small pool of potential Board Members and occasionally makes it more difficult to reach other economies of scale. There may be opportunities to provide other services beyond just -water on a regional basis through a reorganization of existing service providers.

The District has developed a unique way to share resources with its neighbors through utilization of effluent for snow making on the Soda Springs Ski Resort property and possibly Boreal Ski Resort. During the winter of 2015/16 the District, in partnership with Soda Springs Ski Resort, became the first agency in California to offer recycled water for snowmaking. This benefits the District by reducing the amount of effluent that is discharged directly to local surface waters during the winter season.

5.10: DETERMINATIONS

Written determinations on the required topics are available in Placer LAFCo's North Lake Tahoe & Martis Valley MSR published in August 2018.

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CHAPTER 6: COMMENTS RECEIVED AND RESPONSES TO COMMENTS

This Chapter describes the public comments received on this document during the public comment period. The Preliminary Draft MSR Update was distributed to the two service providers described in this MSR and it was posted to LAFCo's website in May 2019. The Commission held a public meeting on the Preliminary Draft MSR Update on May 16, 2019.

A public hearing on this Public Review Draft was held on July 18, 2019. The public was encouraged to provide comments for staff to review and possibly incorporate into the final document. One set of written comments from DSPUD are provided on the following pages. The Commission considered these comments from DSPUD during their July 18, 2019 meeting.

Cathy Preis
President
Sara Schrichte
Vice President
Robert Sherwood
Secretary
Phil Gamick
Director
Alex Medveczky
Director



September 19, 2018

Mr. Hank Weston, Chairman
Nevada County Local Agency Commission
950 Maidu Avenue
Nevada City, CA 95959
Sent Via Electronic Mail

RE: Draft Eastern County Wastewater MSR

Chair Weston:

On behalf of the Donner Summit Public Utility District (the District), I want to thank you and the Commission for this opportunity to comment on the Draft Eastern County Wastewater Municipal Service Review, also known as Wastewater Services in Eastern Nevada County, dated September 20, 2018.

Out of the 42 items listed in the Summary of MSR Determinations for the District, I believe that Item #33 deserves a comment. This item refers to energy use by the District at its recently upgraded and expanded treatment plant and proper budgeting for the same.

It is accurate that utility costs rose between Fiscal Year 2012/13 and 2017/18, however, it should be noted that the District broke ground for its upgrade and expansion project in 2012. That project resulted in more than doubling the square footage of the existing treatment facility. Additionally, the District changed from chlorine gas to an ultra-violet disinfection system. Ultra-violet systems consume large amounts of electricity. The decision to change disinfection processes was made for employee/public safety reasons and to eliminate any possibility of chlorine spills into the South Yuba River. It should also be noted that the District's treatment facility is the only facility in the State of California that actually heats the Return Activated Sludge. This is due to extremely low influent temperatures during the winter months.

The project was completed in Fiscal Year 2015/16 and since then utility costs have stabilized. During design the District did instruct its consulting engineers to investigate possible renewable energy alternatives, including enclosing the two reactor basins. After cost/benefit ratios were performed it was apparent that alternative energy sources were not worth the capital cost.

In closing, I again want to thank the Commission for allowing the opportunity to comment. Please feel free to contact me if you have any questions or desire additional information.

Sincerely yours,

Thomas G. Skjelstad
General Manager

**Consultant's Response to Comments from DSPUD General Manager, Thomas Skjelstad
Comments Sent by Thomas Skjelstad via email on 9/19/2018**

Consultant's responses are shown below in blue italic font.

Comment from T. Skjelstad: On behalf of the Donner Summit Public Utility District (the District), I want to thank you and the Commission for this opportunity to comment on the Draft Eastern County Wastewater Municipal Service Review, also known as Wastewater Services in Eastern Nevada County, dated September 20, 2018.

Consultant Response: It is noted that DSPUD's comments were originally submitted in reference to LAFCO's Wastewater MSR for Eastern County service approved on September 20, 2018. T. Skjelstad asked that these comments also be added to this Water Service MSR.

Comment from T. Skjelstad: Out of the 42 items listed in the Summary of MSR Determinations for the District, I believe that Item #33 deserves a comment. This item refers to energy use by the District at its recently upgraded and expanded treatment plant and proper budgeting for the same.

Consultant Response: Since the August 8, 2018 MSR prepared by Placer LAFCO on the DSPUD contained determinations for DSPUD and since Placer LAFCO is the Principal LAFCO for the DSPUD, it was decided not to provide determinations for DSPUD in this current water service MSR by Nevada LAFCO. Therefore, the referenced determination is not included in this current MSR.

Comment from T. Skjelstad: It is accurate that utility costs rose between Fiscal Year 2012/13 and 2017/18, however, it should be noted that the District broke ground for its upgrade and expansion project in 2012. That project resulted in more than doubling the square footage of the existing treatment facility. Additionally, the District changed from chlorine gas to an ultra-violet disinfection system. Ultra-violet systems consume large amounts of electricity. The decision to change disinfection processes was made for employee/public safety reasons and to eliminate any possibility of chlorine spills into the South Yuba River. It should also be noted that the District's treatment facility is the only facility in the State of California that actually heats the Return Activated Sludge. This is due to extremely low influent temperatures during the winter months.

Consultant Response: Thank you for sharing this explanation of the relationship between facility size of the sewage treatment plant and utility costs. It does make sense that utility costs have increased as the size of the facilities have increased.

Comment from T. Skjelstad: The project was completed in Fiscal Year 2015/16 and since then utility costs have stabilized. During design the District did instruct its consulting engineers to investigate possible renewable energy alternatives, including enclosing the two reactor basins. After cost/benefit ratios were performed it was apparent that alternative energy sources were not worth the capital cost.

Consultant Response: This comment references work completed on the sewage treatment plant. The authors of this MSR do acknowledge that overall the DSPUD has been conscious of its energy usage and has taken steps to study and monitor energy usage. Based upon the referenced cost/benefit analysis, it seems that DSPUD has made appropriate decisions. The consultants added one sentence to this current Water Service MSR's discussion of utility cost on page 5- 22 to refer readers to the September 19, 2018 letter from DSPUD which provides a good explanation of the situation.

CHAPTER 7: REFERENCES

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CHAPTER 8: GLOSSARY

Acre-foot: The volume of water required to cover one acre of land to a depth of one foot. This is equal to 325.851 gallons or 1,233 cubic meters. An “acre-foot” of water usually supplies enough water to support two urban households for one year.

Appropriation Doctrine: In the western US, the doctrine of Prior Appropriation was in common use as early settlers and miners began to develop the land. The prior appropriation doctrine is based on the concept of “first in time, first in right”; meaning that the first person to use a quantity of water and put it to Beneficial Use has a higher priority of water right than a subsequent user. In drought conditions, high priority users are allocated water before junior users receive water. Appropriative rights can be lost through nonuse or transferred apart from the land.

Appropriative rights: Water rights based on the “Appropriation Doctrine”. Not related to riparian land ownership. In California and since 1914, a state-issued permit or license is required to establish appropriative rights.

Aqueduct: A conduit, pipe, or channel designed to transport water from a remote source, usually by gravity.

Aquifer: A below-ground geologic formation that bears water, stores water, and/or transmits water, such as to wells and springs.

Annexation: The annexation, inclusion, attachment, or addition of territory to a city or district.

Area of origin statutes: Statutes designed to protect counties and watersheds where the water originates, in the form of rain or snow, from the export of water outside the regions.

Beneficial use: Includes irrigation, municipal, domestic, industrial, recreational use, and protection of fish wildlife and their habitat, and aesthetic enjoyment. The California Constitution (Article X, Section 2) requires that all water resources must be put to beneficial use, without waste or unreasonable use.

Best Management Practices: Best management practices are defined as methods or techniques found to be the most effective and practical means in achieving an

objective (such as minimizing pollution) while making the optimum use of the District's resources.

Board of Directors: The legislative body or governing board of a district.

Board of Supervisors: The elected board of supervisors of a county.

Bond: An interest-bearing promise to pay a stipulated sum of money, with the principal amount due on a specific date. Funds raised through the sale of bonds can be used for various public purposes.

Buildout: The maximum development potential when all lands within an area have been converted to the maximum density allowed under the General Plan.

CFS: Abbreviation for cubic feet per second. Used to describe a rate of the flow in streams and rivers. One "cfs" is equivalent to 7.48 gallons of water flowing each second. Also, equal to a volume of water one foot high and one foot wide flowing a distance of one foot in one second.

City: Any charter or general law city.

Consumptive use: Any use of water that permanently removes water from the natural stream system. 2. Water that has been evaporated, transpired, incorporated into products, plant tissue, or animal tissue and is not available for immediate reuse.

Conveyance loss: *Loss* of water from a channel or pipe during *conveyance*, including *losses* due to seepage, leakage, evaporation and transpiration by plants growing nearby.

Community Services District (CSD): A geographic subarea of a county used for planning and delivery of parks, recreation, and other human services based on an assessment of the service needs of the population in that subarea. A CSD is a taxation district with independent administration.

Consolidation: The uniting or joining of two or more districts into a single new successor district. In the case of consolidation of special districts, all of those districts shall have been formed pursuant to the same principal act.

Contiguous: In the case of annexation, territory adjacent to an agency to which annexation is proposed. Territory is not contiguous if the only contiguity is based upon a strip of land more than 300 feet long and less than 200 feet wide.

Cost avoidance: Actions to eliminate unnecessary costs derived from, but not limited to, duplication of service efforts, higher than necessary administration/operation cost ratios, use of outdated or deteriorating infrastructure and equipment, underutilized equipment

or buildings or facilities, overlapping/inefficient service boundaries, inefficient purchasing or budgeting practices, and lack of economies of scale.

Detachment: The detachment, deannexation, exclusion, deletion, or removal from a city or district of any portion of the territory of that city or district.

Development Fee: A fee charged to the developer of a project by a county, or other public agency as compensation for otherwise-unmitigated impacts the project will produce. California Government Code Section 66000, et seq., specifies that development fees shall not exceed the estimated reasonable cost of providing the service for which the fee is charged. To lawfully impose a development fee, the public agency must verify its method of calculation and document proper restrictions on use of the fund.

Discharge: The volume of water that passes a given location within a given period of time. Usually measured in cfs.

Drainage basin: A watershed (land area) where precipitation runs off into streams, rivers, lakes, and reservoirs. A drainage basin may be identified by tracing a line along the highest elevations between two areas on a map, often along a ridgeline.

Dissolution: The dissolution, disincorporation, extinguishment, and termination of the existence of a district and the cessation of all its corporate powers, except for the purpose of winding up the affairs of the district.

District or special District: An agency of the state, formed pursuant to general law or special act, for the local performance of governmental or proprietary functions within limited boundaries. "District" or "special district" includes a county service area.

District of limited Powers: An airport district, community services district, municipal utility district, public utilities district, fire protection district, harbor district, port district, recreational harbor district, small craft harbor district, resort improvement district, library district, local hospital district, local health district, municipal improvement district formed pursuant to any special act, municipal water district, police protection district, recreation and park district, garbage disposal district, garbage and refuse disposal district, sanitary district, or county sanitation district.

Evaporation: A physical process such that liquid water transforms to water vapor, including vaporization from water surfaces, land surfaces, and fields.

Evapotranspiration: Combination of evaporation from free water surfaces and transpiration of water from plant surfaces to the atmosphere.

Formation: The formation, incorporation, organization, or creation of a district.

Function: Any power granted by law to a local agency or a county to provide designated governmental or proprietary services or facilities for the use, benefit, or protection of all persons or property.

Functional revenues: Revenues generated from direct services or associated with specific services, such as a grant or statute, and expenditures.

FY: Fiscal year.

General plan: A document containing a statement of development policies including a diagram and text setting forth the objectives of the plan. The general plan must include certain state mandated elements related to land use, circulation, housing, conservation, open-space, noise, and safety.

General revenues: Revenues not associated with specific services or retained in an enterprise fund.

Groundwater: Water under the earth's surface, often confined to aquifers capable of supplying wells and springs.

Incorporation: The incorporation, formation, creation, and establishment of a city with corporate powers. Any area proposed for incorporation as a new city must have at least 500 registered voters residing within the affected area at the time commission proceedings are initiated.

Independent Special District: Any special district having a legislative body all of whose members are elected by registered voters or landowners within the district, or whose members are appointed to fixed terms, and excludes any special district having a legislative body consisting, in whole or in part, of ex officio members who are officers of a county or another local agency or who are appointees of those officers other than those who are appointed to fixed terms. "Independent special district" does not include any district excluded from the definition of district contained in §56036.

Infrastructure: Public services and facilities, such as pipes, canals, levees, water-supply systems, other utility, systems, and roads.

LAFCo: Local Agency Formation Commission.

Local accountability and governance: A style of public agency decision making, operation and management that includes an accessible staff, elected or appointed decision-making body and decision making process, advertisement of, and public participation in, elections, publicly disclosed budgets, programs, and plans, solicited public participation in the consideration of work and infrastructure plans; and regularly evaluated or measured outcomes of plans, programs or operations and disclosure of results to the public.

Local agency: A city, county, or special district or other public entity, which provides public services.

Management Efficiency: The organized provision of the highest quality public services with the lowest necessary expenditure of public funds. An efficiently managed entity (1) promotes and demonstrates implementation of continuous improvement plans and strategies for budgeting, managing costs, training and utilizing personnel, and customer service and involvement, (2) has the ability to provide service over the short and long term, (3) has the resources (fiscal, manpower, equipment, adopted service or work plans) to provide adequate service, (4) meets or exceeds environmental and industry service standards, as feasible considering local conditions or circumstances, (5) and maintains adequate contingency reserves.

Merger: The termination of the existence of a district, and the assumption of the district's responsibilities by a city.

Municipal services: The full range of services that a public agency provides, or is authorized to provide, except general county government functions such as courts, special services and tax collection. As understood under the CKH Act, this includes all services provided by Special Districts under California law.

Municipal Service Review (MSR): A study designed to determine the adequacy of governmental services being provided in the region or sub-region. Performing service reviews for each city and special district within the county may be used by LAFCO, other governmental agencies, and the public to better understand and improve service conditions.

Ordinance: A law or regulation set forth and adopted by a governmental authority.

Paper water: Water proposed for transfer that exceeds what the user can rightfully sell (e.g. sale of water by a user entitled to the water under contract, but the right has not been historically exercised).

Per Capita Water Use: The water produced by or introduced into the system of a water supplier divided by the total residential population; normally expressed in gallons per capita per day (gpcd).

pH: A measure of the relative acidity or alkalinity of water. Water with a pH of 7 is neutral; lower pH levels indicate increasing acidity, while pH levels higher than 7 indicate increasingly basic solutions.

Plan of reorganization: A plan or program for effecting reorganization and which contains a description of all changes of organization included in the reorganization and setting forth all terms, conditions, and matters necessary or incidental to the effectuation of that reorganization.

Potable Water: Water of a quality suitable for drinking.

Prior appropriation doctrine: In dealing with water rights, the *prior appropriation doctrine* states that water rights are determined by priority of beneficial use. This means that the first person to use water or divert water for a beneficial use or purpose can acquire individual rights to the water. The rights can be lost through nonuse; they can also be sold or transferred apart from the land.

Principal act: In the case of a district, the law under which the district was formed and, in the case of a city, the general laws or a charter, as the case may be.

Principal LAFCO for municipal service review: The LAFCO with the lead responsibility for a municipal service review. Lead responsibility can be determined pursuant to the CKH Act definition of a Principal LAFCO as it applies to government organization or reorganization actions, by negotiation, or by agreement among two or more LAFCOs.

Proceeding: A course of action. Procedures.

Public agency: The state or any state agency, board, or commission, any city, county, city and county, special district, or other political subdivision, or any agency, board, or commission of the city, county, city and county, special district, or other political subdivision.

Public trust: The public's rights to many natural resources, including running water, the sea, and the shore. The Public Trust Doctrine traditionally applied to commerce and fishing in navigable waters and has been expanded to include fish, wildlife, habitat, and recreation, and the preservation of natural resources and ecosystems.

Rate restructuring: Rate restructuring does not refer to the setting or development of specific rates or rate structures. During a municipal service review, LAFCO may compile and review certain rate related data, and other information that may affect rates, as that data applies to the intent of the CKH Act (§56000, §56001, §56301), factors to be considered (§56668), SOI determinations (§56425) and all required municipal service review determinations (§56430). The objective is to identify opportunities to positively impact rates without adversely affecting service quality or other factors to be considered.

Reorganization: Two or more changes of organization initiated in a single proposal.

Responsible LAFCO: The LAFCO of a county other than the Principal County that may be impacted by recommendations, determinations or subsequent proposals elicited during a municipal service review being initiated or considered by the Lead LAFCO.

Retained earnings: The accumulated earnings of an enterprise or intragovernmental service fund which have been retained in the fund and are not reserved for any specific purpose (debts, planned improvements, and contingency/emergency).

Reserve: (1) For governmental type funds, an account used to earmark a portion of fund balance, which is legally or contractually restricted for a specific use or not appropriate for

expenditure. (2) For proprietary type/enterprise funds, the portion of retained earnings set aside for specific purposes. Unnecessary reserves are those set aside for purposes that are not well defined or adopted or retained earnings that are not reasonably proportional to annual gross revenues.

Riparian water right: The legal right held by an owner of land contiguous to or bordering on a natural stream or lake, to take water from the source for use on the contiguous land. The doctrine of riparian rights is an old one, having its origins in English common law. Riparian rights cannot be sold or transferred for use on non-riparian land.

RWQCB: Regional Water Quality Control Board.

SCADA: Acronym for Supervisory Control and Data Acquisition; a software application program used for process control and to gather real time data from remote locations. The SCADA System consists of hardware and software components. The hardware collects and feeds data into a computer with SCADA software installed. The function of SCADA is recording and logging all events in a file that is stored in a hard disk or sending them to a printer. If conditions become hazardous, SCADA sounds warning alarm.

Service review: A study and evaluation of municipal service(s) by specific area, subregion or region culminating in written determinations regarding seven specific evaluation categories.

Special Reorganization: A reorganization that includes the detachment of territory from a city or city and county and the incorporation of that entire detached territory as a city.

Specific plan: A policy statement and implementation tool that is used to address a single project or planning problem. Specific plans contain concrete standards and development criteria that supplement those of the general plan.

Sphere of influence (SOI): A plan for the probable physical boundaries and service area of a local agency, as determined by the LAFCO.

Sphere of influence determinations: In establishing a sphere of influence, the Commission must consider and prepare written determinations related to present and planned land uses, need and capacity of public facilities, and existence of social and economic communities of interest.

Stream: A body of flowing water or natural watercourse containing water at least part of the year. In hydrology, it is generally applied to the water flowing in a natural channel as distinct from a canal.

Streamflow: The water discharge that occurs in a natural channel. A more general term than runoff, streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Stormwater runoff: Rainwater which does not infiltrate into the soil and runs off the land.

Subject agency: Each district or city for which a change of organization is proposed or provided in a reorganization or plan of reorganization.

SWRCB: State Water Resources Control Board.

Treated water: Raw water which has been treated for human consumption through secondary or tertiary processes at a water treatment plan (WTP).

Watershed: An area of land that drains water, sediment and dissolved materials to a common receiving body or outlet. The term is not restricted to surface water runoff and includes interactions with subsurface water. Watersheds vary from the largest river basins to just acres or less in size. In urban watershed management, a watershed is seen as all the land which contributes runoff to a particular water body.

Water table: The top of the water surface in the saturated part of an aquifer.

Zoning: The primary instrument for implementing the general plan. Zoning divides a community into districts or "zones" that specify the permitted/prohibited land uses.

CHAPTER 9:

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Placer LAFCO Staff	Kris Berry, Executive Officer Linda Wilkie, Commission Clerk

Report Preparers

A team of consultants authored this MSR and provided an independent analysis.

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Baracco & Associates	Bruce Baracco, Co-Author, Project Advisor

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4. A Better Board Member by The Nevada County Grand Jury (an excerpt)
5. Description of the Truckee River Watershed
6. Other Water Users & Mutual Water Companies
7. Floriston
8. Water History from LAFCO's 2005 MSR
9. Water Regulations
10. Groundwater Quality Report from USGS
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Appendix 1:

Population and Socio-Economics for the Town of Truckee

Truckee

CALIFORNIA



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prepared by

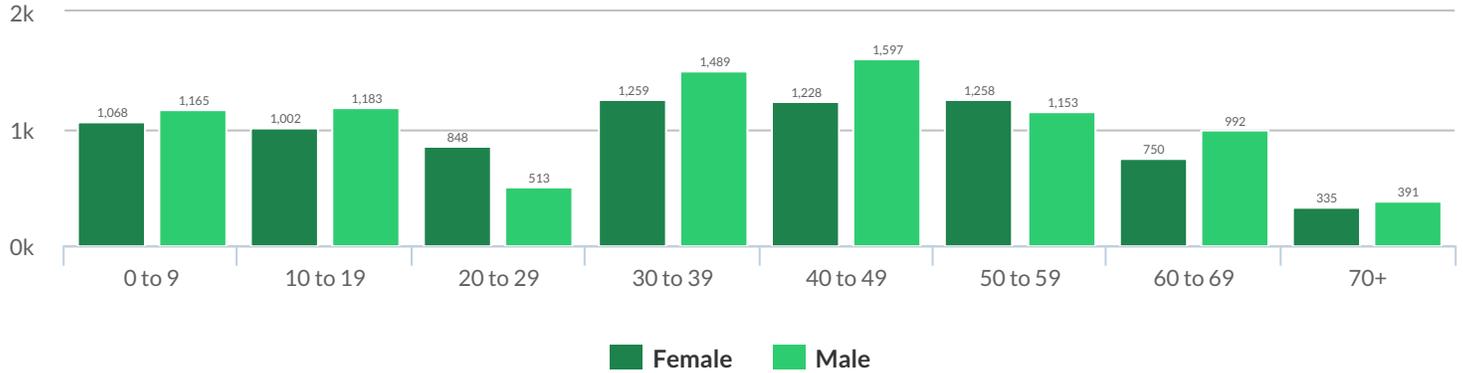
CUBIT

www.cubitplanning.com

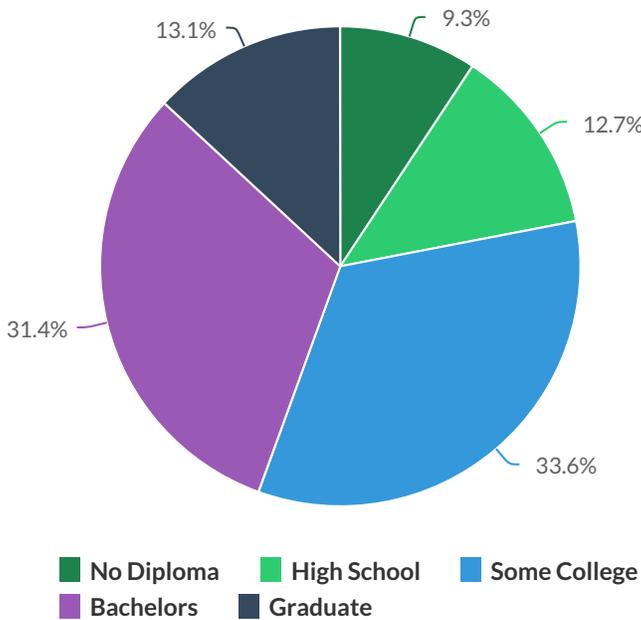
2016 POPULATION
16,231

MEDIAN HOUSEHOLD INCOME
\$79,971

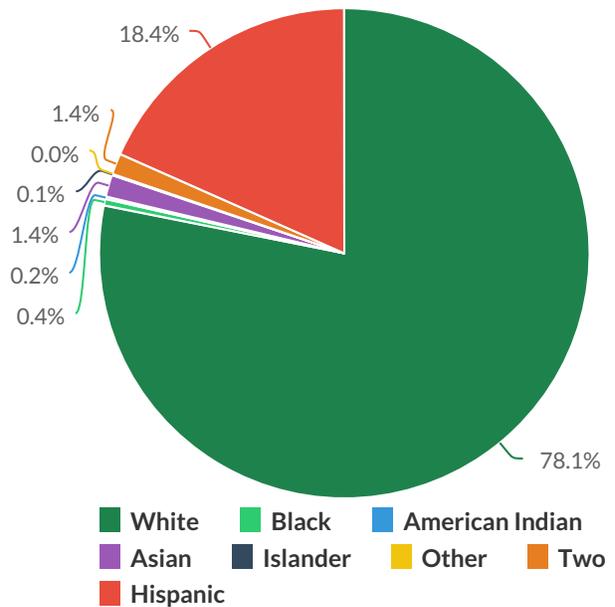
SEX BY AGE



EDUCATIONAL ATTAINMENT



RACE & ORIGIN



POVERTY
3.1%

for all families whose income in the past 12 months is below the poverty level

UNEMPLOYMENT
5.3%

for the population 16 years & over in the labor force

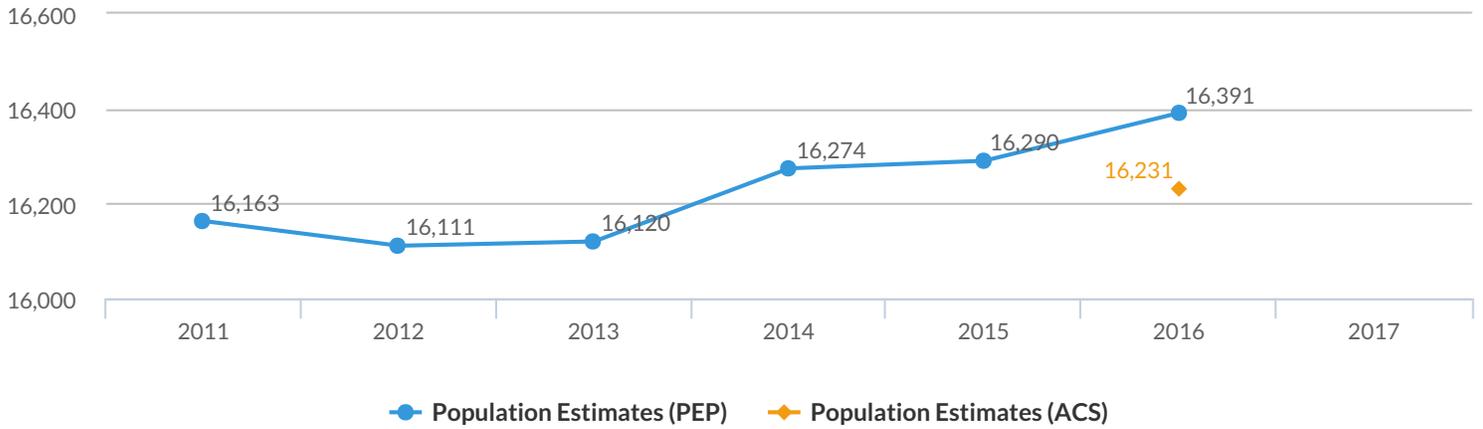
HOUSING UNITS
13,637

houses, apartments, mobile homes, group of rooms or single rooms that serve as separate living quarters

HOUSEHOLDS
6,146

all the people who occupy a housing unit

POPULATION



Population Estimates (ACS)

	#	% Change
2016 5-yr estimate	16,231	-

Source: American Community Survey 2016

Population Estimates (PEP)

	#	% Change
2011	16,163	-
2012	16,111	-0.3%
2013	16,120	0.1%
2014	16,274	1.0%
2015	16,290	0.1%
2016	16,391	0.6%

Source: Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2016

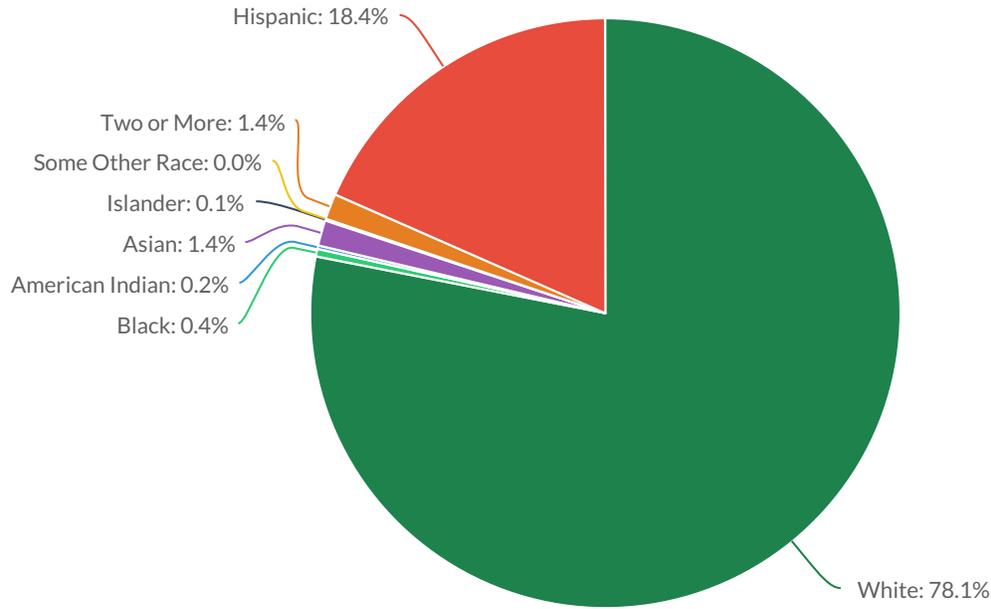
Historical Population Counts

	#	% Change
2000	13,864	-
2010	16,180	16.7%

Source: Decennial Census 2010, 2000

RACE

Race & Origin (Hispanic)



	#	%
Non-Hispanic	13,251	81.6%
White	12,682	78.1%
Black	71	0.4%
American Indian	27	0.2%
Asian	233	1.4%
Islander	15	0.1%
Other	0	0.0%
Two or More	223	1.4%
Hispanic	2,980	18.4%
Total Population	16,231	-

The complete Census race descriptions are as follows: White alone; Black or African American alone; American Indian and Alaska Native alone; Asian alone; Native Hawaiian and Other Pacific Islander alone; Some Other Race alone; and Two or More Races. Hispanics may be of any race. For more information, visit the American Community Survey Data & Documentation page: http://www.census.gov/acs/www/data_documentation/documentation_main/.

Source: American Community Survey 2016

Detailed Race

	#	%
One race	15,910	98.0%
White	14,935	92.0%
Black or African American	72	0.4%
American Indian and Alaska Native	36	0.2%
Cherokee tribal grouping	0	0.0%
Chippewa tribal grouping	0	0.0%
Navajo tribal grouping	0	0.0%
Sioux tribal grouping	0	0.0%
Asian	258	1.6%
Asian Indian	16	0.1%
Chinese	120	0.7%
Filipino	33	0.2%
Japanese	44	0.3%
Korean	20	0.1%
Vietnamese	0	0.0%
Other Asian	25	0.2%
Native Hawaiian and Other Pacific Islander	15	0.1%
Native Hawaiian	15	0.1%
Guamanian or Chamorro	0	0.0%
Samoan	0	0.0%
Other Pacific Islander	0	0.0%
Some other race	594	3.7%
Two or more races	321	2.0%
White and Black or African American	26	0.2%
White and American Indian and Alaska Native	87	0.5%
White and Asian	64	0.4%
Black or African American and American Indian and Alaska Native	0	0.0%
Total Population	16,231	-

Source: American Community Survey 2016

Hispanic or Latino

	#	%
Non-Hispanic	13,251	81.6%
Hispanic or Latino (of any race)	2,980	18.4%
Mexican	2,806	17.3%
Puerto Rican	21	0.1%
Cuban	0	0.0%
Other	153	0.9%
Total Population	16,231	-

Source: American Community Survey 2016

SEX

	#	%
Male	8,483	52.3%
Female	7,748	47.7%
Total Population	16,231	-

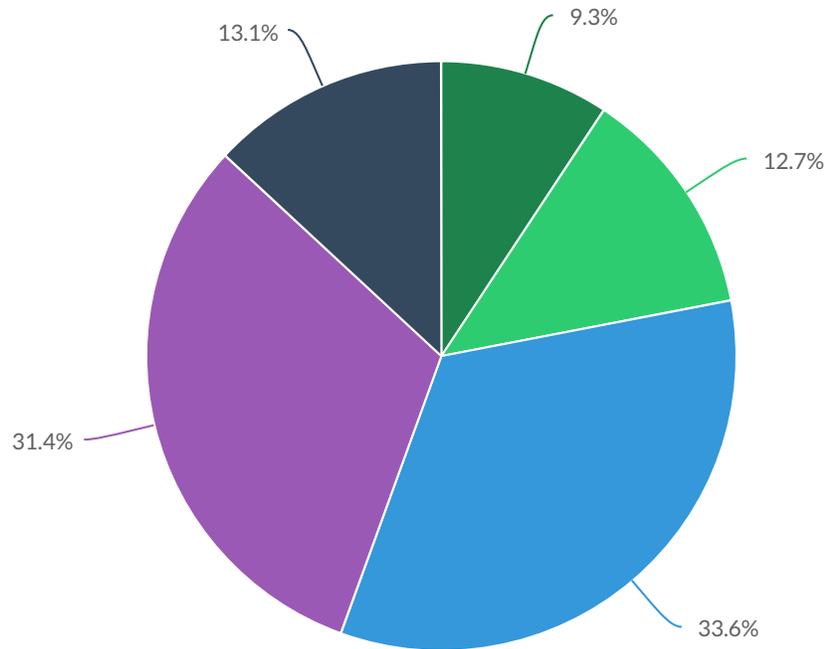
Source: American Community Survey 2016

AGE BREAKDOWN

	#	%
0 to 9 years	2,233	13.8%
10 to 19 years	2,185	13.5%
20 to 29 years	1,361	8.4%
30 to 39 years	2,748	16.9%
40 to 49 years	2,825	17.4%
50 to 59 years	2,411	14.9%
60 to 69 years	1,742	10.7%
70+ years	726	4.5%
Total Population	16,231	-

Source: American Community Survey 2016

EDUCATIONAL ATTAINMENT



■ No Diploma
 ■ High School
 ■ Some College
 ■ Bachelors
 ■ Graduate

	#	%
No diploma	1,036	9.3%
High school graduate & equivalency	1,414	12.7%
Associate degree & some college, no degree	3,750	33.6%
Bachelor's degree	3,497	31.4%
Graduate or Professional degree	1,457	13.1%
Population 25 Years and Over	11,154	-

Source: American Community Survey 2016

HOUSEHOLDS

Average Household Size	2.64 persons
Average Family Size	3.31 persons

A household includes all the people who occupy a housing unit. (People not living in households are classified as living in group quarters.) A family household consists of a householder and one or more other people living in the same household who are related to the householder by birth, marriage, or adoption. For more information, visit the American Community Survey Data & Documentation page: http://www.census.gov/acs/www/data_documentation/documentation_main/.

Source: American Community Survey 2016

Household Types

	#	%
Family households (families)	3,788	61.6%
With own children under 18 years	1,875	30.5%
Married-couple family	3,318	54.0%
With own children under 18 years	1,563	25.4%
Male householder, no wife present	204	3.3%
With own children under 18 years	127	2.1%
Female householder, no husband present	266	4.3%
With own children under 18 years	185	3.0%
Nonfamily households	2,358	38.4%
Householder living alone	1,631	26.5%
65 years and over	438	7.1%
Total households	6,146	-

A family household consists of a householder and one or more other people living in the same household who are related to the householder by birth, marriage, or adoption. A nonfamily household is a householder living alone or with nonrelatives only. Same-sex couple households with no relatives of the householder present are tabulated in nonfamily households. For more information, visit the American Community Survey Data & Documentation page: http://www.census.gov/acs/www/data_documentation/documentation_main/.

Source: American Community Survey 2016

INCOME

Median Household Income

Census 2000 in 1999 dollars	\$58,848
American Community Survey (ACS) 2016 in 2016 inflation adjusted dollars	\$79,971

Source: Decennial Census 2000, American Community Survey 2016

Household Income Distribution

Income in thousands.	#	%
Less than \$10	214	3.5%
\$10 to \$14.9	184	3.0%
\$15 to \$24.9	118	1.9%
\$25 to \$34.9	506	8.2%
\$35 to \$49.9	755	12.3%
\$50 to \$74.9	1,060	17.2%
\$75 to \$99.9	957	15.6%
\$100 to \$149.9	1,208	19.7%
\$150 to \$199.9	531	8.6%
\$200K+	613	10.0%
Total Households	6,146	-

Source: American Community Survey 2016

POVERTY

	#	%
Families with Income in the past 12 months below poverty level	(X)	3.1%
Population with Income in the past 12 months below poverty level	(X)	6.7%

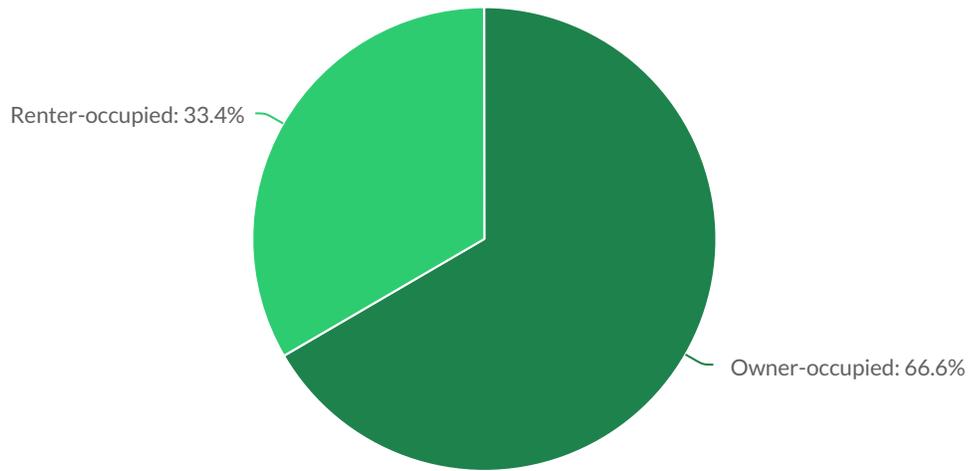
Source: American Community Survey 2016

HOUSING

Occupancy

	#	%
Occupied Housing Units	6,146	45.1%
Owner-occupied Housing Units	4,095	66.6%
Renter-occupied Housing Units	2,051	33.4%
Vacant Housing Units	7,491	54.9%
Total Housing Units	13,637	-

Source: American Community Survey 2016



Value

	#	%
Median Value of Owner-occupied Housing Units	\$492,400	-

Source: American Community Survey 2016

CITATIONS & NOTES

Citations

United States Census Bureau / American FactFinder. "Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2016". *2016 Population Estimates Program*. Web. May 2017. <http://factfinder2.census.gov>

United States Census Bureau / American FactFinder. "DP02: SELECTED SOCIAL CHARACTERISTICS IN THE UNITED STATES". *2012 - 2016 American Community Survey*. U.S. Census Bureau's American Community Survey Office. Web. 7 December 2017 <http://factfinder2.census.gov>.

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United States Census Bureau. *2000 Census*. U.S. Census Bureau, 2011. Web. 17 October 2012 ftp://ftp.census.gov/census_2000/.

United States Census Bureau. *2010 Census*. U.S. Census Bureau, 2012. Web. 17 October 2012 ftp://ftp.census.gov/census_2010/.

Notes

American Community Survey data are estimates, not counts.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

The ACS questions on Hispanic origin and race were revised in 2008 to make them consistent with the Census 2010 question wording. Any changes in estimates for 2008 and beyond may be due to demographic changes, as well as factors including questionnaire changes, differences in ACS population controls, and methodological differences in the population estimates, and therefore should be used with caution. For a summary of questionnaire changes see http://www.census.gov/acs/www/methodology/questionnaire_changes/. For more information about changes in the estimates see <http://www.census.gov/population/www/socdemo/hispanic/reports.html>.

For more information on understanding race and Hispanic origin data, please see the Census 2010 Brief entitled, Overview of Race and Hispanic Origin: 2010, issued March 2011. (pdf format)

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Appendix 2:

Population and Socio-Economics for Nevada County

Nevada County

CALIFORNIA



TABLE OF CONTENTS

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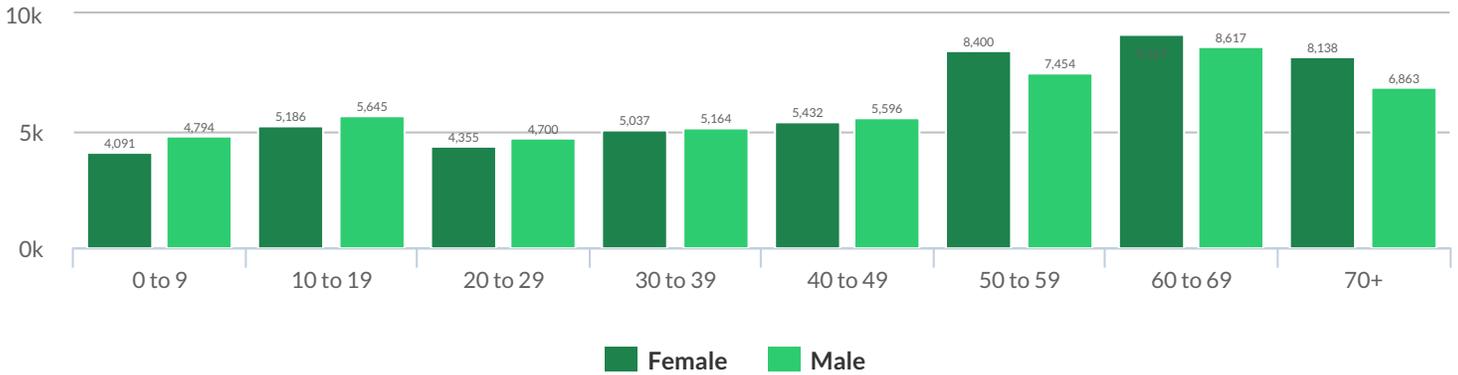
CUBIT

www.cubitplanning.com

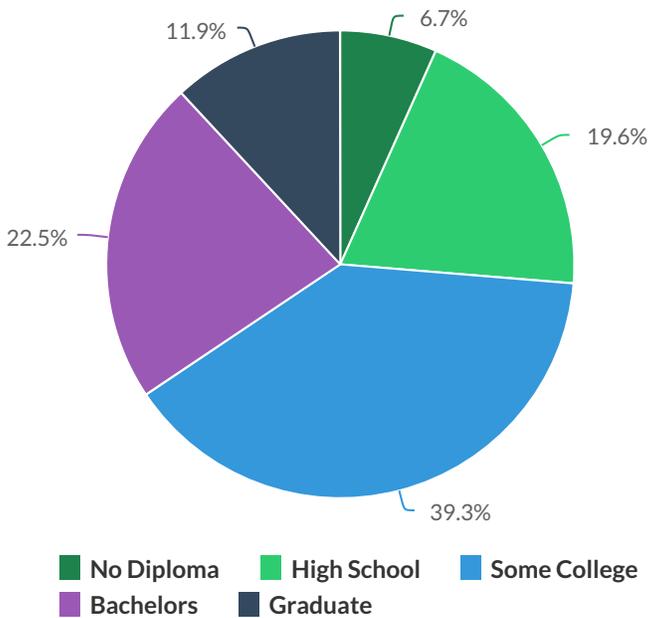
2017 POPULATION
99,814

MEDIAN HOUSEHOLD INCOME
\$57,429

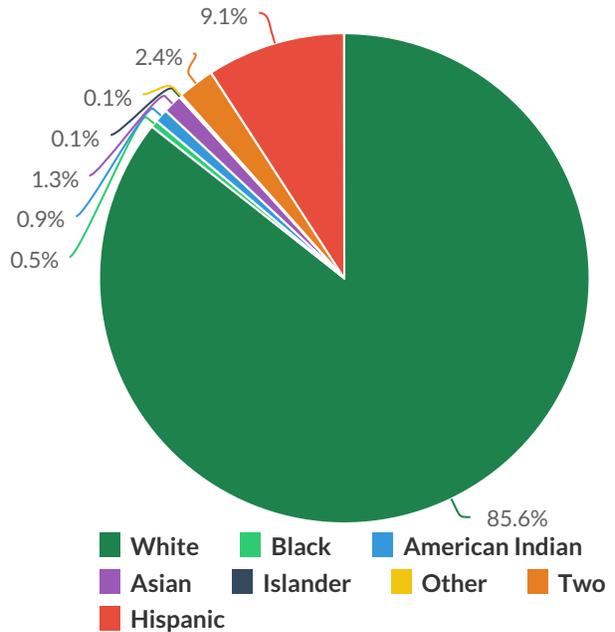
SEX BY AGE



EDUCATIONAL ATTAINMENT



RACE & ORIGIN



POVERTY
7.2%

for all families whose income in the past 12 months is below the poverty level

UNEMPLOYMENT
4.8%

for the population 16 years & over in the labor force

HOUSING UNITS
53,189

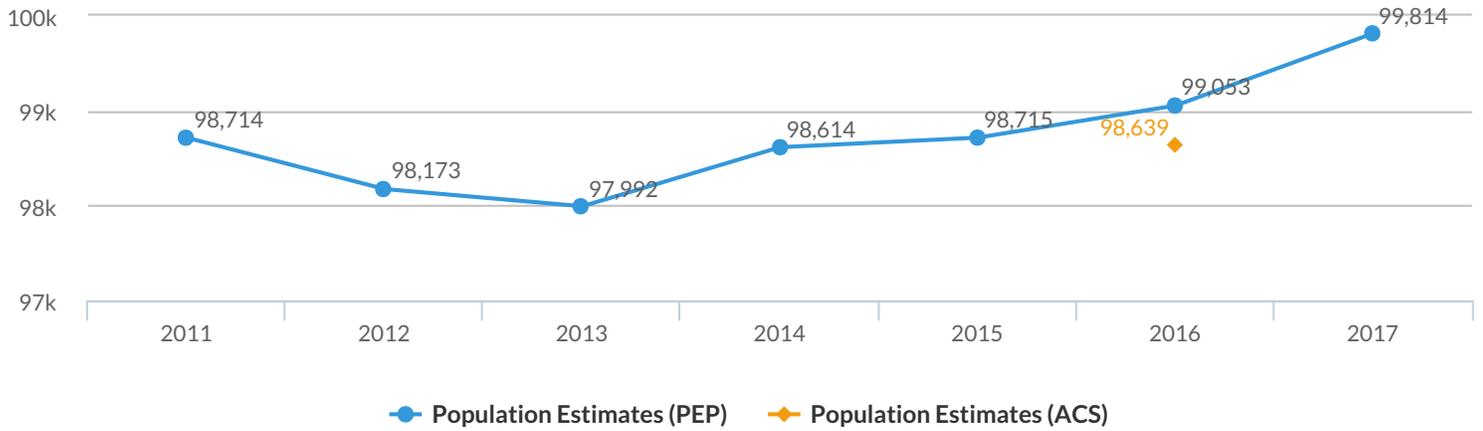
houses, apartments, mobile homes, group of rooms or single rooms that serve as separate living quarters

HOUSEHOLDS
40,587

all the people who occupy a housing unit

Source: United States Census Bureau. The US Census Bureau's 2017 Population Estimates dataset has the most current population estimate data. The US Census Bureau's 2016 American Community Survey dataset has the most current demographic data (i.e. race).

POPULATION



Population Estimates (ACS)

	#	% Change
2016 5-yr estimate	98,639	-

Source: American Community Survey 2016

Population Estimates (PEP)

	#	% Change
2011	98,714	-
2012	98,173	-0.5%
2013	97,992	-0.2%
2014	98,614	0.6%
2015	98,715	0.1%
2016	99,053	0.3%
2017	99,814	0.8%

Source: Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2017

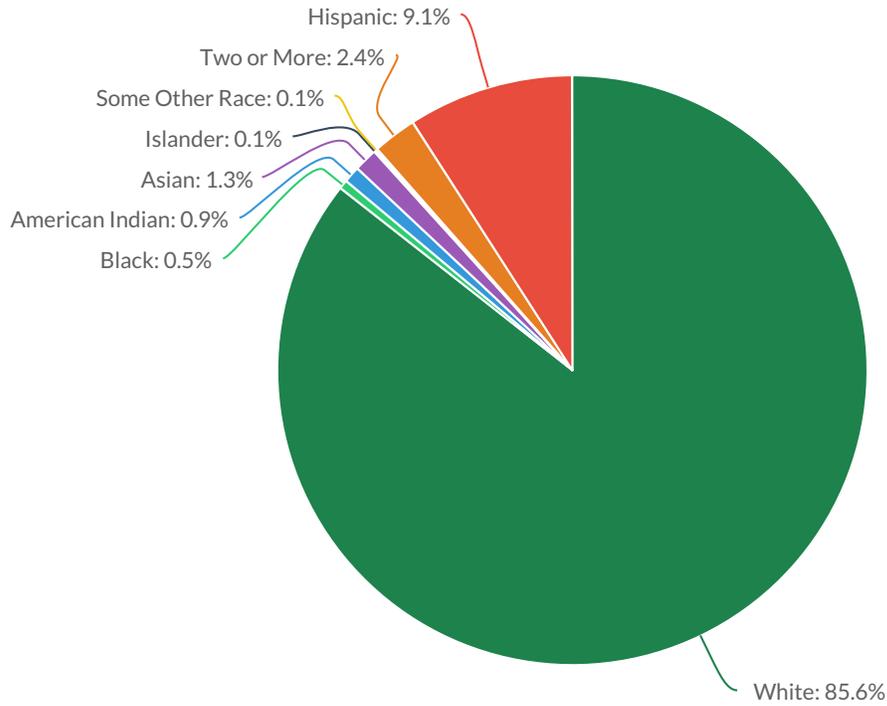
Historical Population Counts

	#	% Change
2000	92,033	-
2010	98,764	7.3%

Source: Decennial Census 2010, 2000

RACE

Race & Origin (Hispanic)



	#	%
Non-Hispanic	89,620	90.9%
White	84,469	85.6%
Black	472	0.5%
American Indian	876	0.9%
Asian	1,246	1.3%
Islander	57	0.1%
Other	100	0.1%
Two or More	2,400	2.4%
Hispanic	9,019	9.1%
Total Population	98,639	-

The complete Census race descriptions are as follows: White alone; Black or African American alone; American Indian and Alaska Native alone; Asian alone; Native Hawaiian and Other Pacific Islander alone; Some Other Race alone; and Two or More Races. Hispanics may be of any race. For more information, visit the American Community Survey Data & Documentation page: http://www.census.gov/acs/www/data_documentation/documentation_main/.

Source: American Community Survey 2016

Detailed Race

	#	%
One race	95,638	97.0%
White	90,973	92.2%
Black or African American	495	0.5%
American Indian and Alaska Native	1,128	1.1%
Cherokee tribal grouping	354	0.4%
Chippewa tribal grouping	0	0.0%
Navajo tribal grouping	10	0.0%
Sioux tribal grouping	0	0.0%
Asian	1,281	1.3%
Asian Indian	81	0.1%
Chinese	512	0.5%
Filipino	228	0.2%
Japanese	212	0.2%
Korean	86	0.1%
Vietnamese	22	0.0%
Other Asian	140	0.1%
Native Hawaiian and Other Pacific Islander	75	0.1%
Native Hawaiian	26	0.0%
Guamanian or Chamorro	9	0.0%
Samoan	19	0.0%
Other Pacific Islander	21	0.0%
Some other race	1,686	1.7%
Two or more races	3,001	3.0%
White and Black or African American	291	0.3%
White and American Indian and Alaska Native	1,041	1.1%
White and Asian	903	0.9%
Black or African American and American Indian and Alaska Native	5	0.0%
Total Population	98,639	-

Source: American Community Survey 2016

Hispanic or Latino

	#	%
Non-Hispanic	89,620	90.9%
Hispanic or Latino (of any race)	9,019	9.1%
Mexican	6,577	6.7%
Puerto Rican	247	0.3%
Cuban	446	0.5%
Other	1,749	1.8%
Total Population	98,639	-

Source: American Community Survey 2016

SEX

	#	%
Male	48,833	49.5%
Female	49,806	50.5%
Total Population	98,639	-

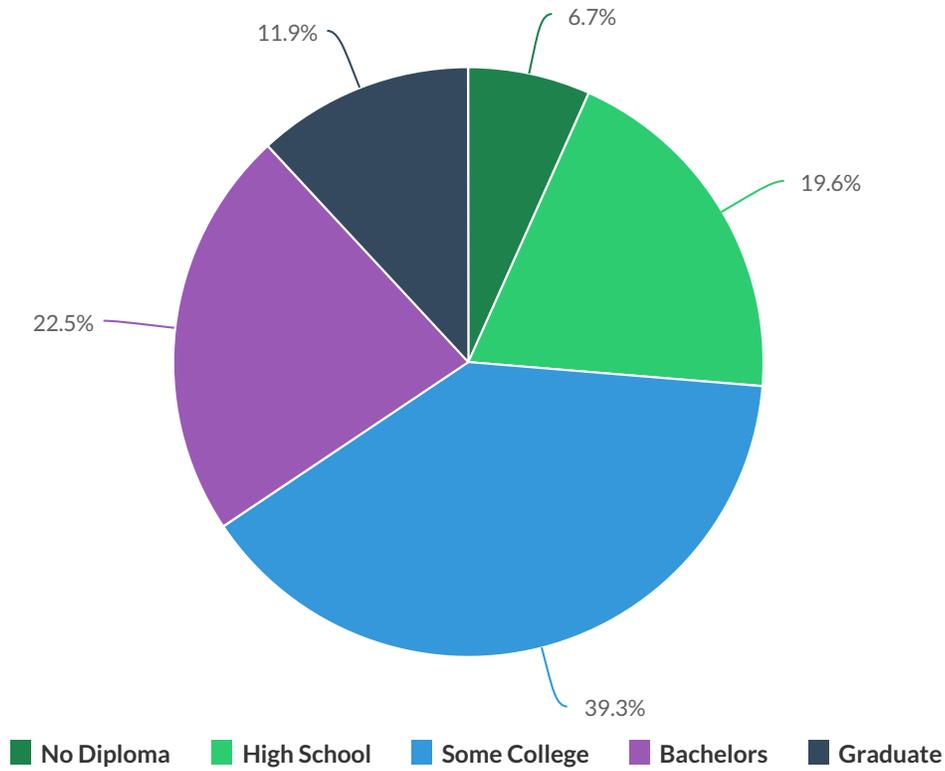
Source: American Community Survey 2016

AGE BREAKDOWN

	#	%
0 to 9 years	8,885	9.0%
10 to 19 years	10,831	11.0%
20 to 29 years	9,055	9.2%
30 to 39 years	10,201	10.3%
40 to 49 years	11,028	11.2%
50 to 59 years	15,854	16.1%
60 to 69 years	17,784	18.0%
70+ years	15,001	15.2%
Total Population	98,639	-

Source: American Community Survey 2016

EDUCATIONAL ATTAINMENT



	#	%
No diploma	4,956	6.7%
High school graduate & equivalency	14,568	19.6%
Associate degree & some college, no degree	29,233	39.3%
Bachelor's degree	16,694	22.5%
Graduate or Professional degree	8,876	11.9%
Population 25 Years and Over	74,327	-

Source: American Community Survey 2016

HOUSEHOLDS

Average Household Size	2.40 persons
Average Family Size	2.91 persons

A household includes all the people who occupy a housing unit. (People not living in households are classified as living in group quarters.) A family household consists of a householder and one or more other people living in the same household who are related to the householder by birth, marriage, or adoption. For more information, visit the American Community Survey Data & Documentation page: http://www.census.gov/acs/www/data_documentation/documentation_main/.

Source: American Community Survey 2016

Household Types

	#	%
Family households (families)	25,777	63.5%
With own children under 18 years	8,304	20.5%
Married-couple family	20,961	51.6%
With own children under 18 years	5,945	14.6%
Male householder, no wife present	1,517	3.7%
With own children under 18 years	759	1.9%
Female householder, no husband present	3,299	8.1%
With own children under 18 years	1,600	3.9%
Nonfamily households	14,810	36.5%
Householder living alone	11,819	29.1%
65 years and over	5,558	13.7%
Total households	40,587	-

A family household consists of a householder and one or more other people living in the same household who are related to the householder by birth, marriage, or adoption. A nonfamily household is a householder living alone or with nonrelatives only. Same-sex couple households with no relatives of the householder present are tabulated in nonfamily households. For more information, visit the American Community Survey Data & Documentation page: http://www.census.gov/acs/www/data_documentation/documentation_main/.

Source: American Community Survey 2016

INCOME

Median Household Income

Census 2000 in 1999 dollars	\$45,864
American Community Survey (ACS) 2016 in 2016 inflation adjusted dollars	\$57,429

Source: Decennial Census 2000, American Community Survey 2016

Household Income Distribution

Income in thousands.	#	%
Less than \$10	1,870	4.6%
\$10 to \$14.9	1,912	4.7%
\$15 to \$24.9	3,649	9.0%
\$25 to \$34.9	4,678	11.5%
\$35 to \$49.9	5,849	14.4%
\$50 to \$74.9	6,944	17.1%
\$75 to \$99.9	5,122	12.6%
\$100 to \$149.9	6,243	15.4%
\$150 to \$199.9	2,329	5.7%
\$200K+	1,991	4.9%
Total Households	40,587	-

Source: American Community Survey 2016

POVERTY

	#	%
Families with Income in the past 12 months below poverty level	(X)	7.2%
Population with Income in the past 12 months below poverty level	(X)	12.1%

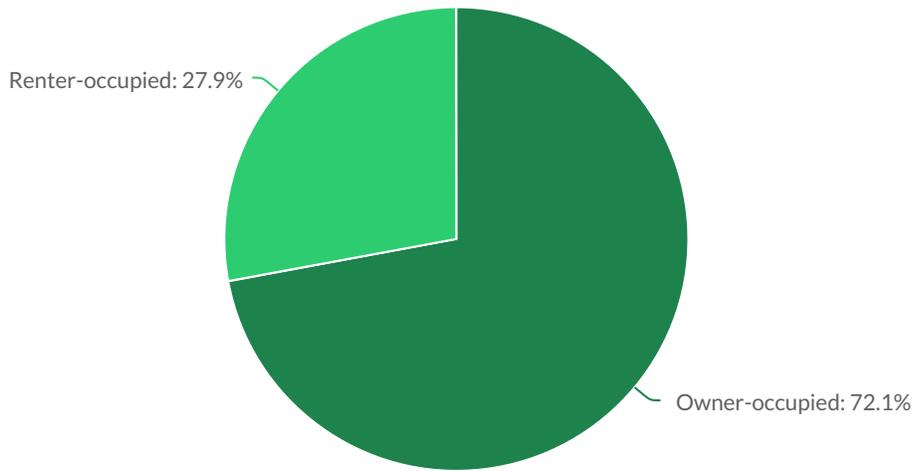
Source: American Community Survey 2016

HOUSING

Occupancy

	#	%
Occupied Housing Units	40,587	76.3%
Owner-occupied Housing Units	29,282	72.1%
Renter-occupied Housing Units	11,305	27.9%
Vacant Housing Units	12,602	23.7%
Total Housing Units	53,189	-

Source: American Community Survey 2016



Value

	#	%
Median Value of Owner-occupied Housing Units	\$355,900	-

Source: American Community Survey 2016

CITATIONS & NOTES

Citations

United States Census Bureau / American FactFinder. "Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2017". *2017 Population Estimates Program*. Web. March 2018. <http://factfinder2.census.gov>

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Notes

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Appendix 3:

Economic Report for Nevada County by Caltrans

California County-Level Economic Forecast 2018-2050



CALIFORNIA COUNTY-LEVEL ECONOMIC FORECAST 2018 - 2050

September 2018



This publication was prepared for:

Transportation Economics Branch
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NEVADA COUNTY ECONOMIC FORECAST

The Nevada County economy is growing at a healthy rate. In 2017 it generated 580 new jobs, representing a growth rate of 1.8 percent, which is similar to the statewide growth rate of 2.0 percent. The best performing industries in Nevada County were construction, leisure services, healthcare, and government.

The Nevada County economy is highly concentrated in a few primary industries. One of its largest sectors is government, which employs 6,600 workers and accounts for a fifth of the entire job market. Approximately half of these individuals work in public schools, while most of the rest work in local municipal agencies. A small number work in federal and state offices located within Nevada County.

The Nevada County economy is also heavily reliant on the healthcare sector. Healthcare agencies employ approximately 5,000 workers, many of which are located near the cities of Grass Valley and Truckee.

The third largest sector is leisure services, which includes hotels, restaurants, and recreation centers. Because the county has several ski resorts and recreational lakes, it draws a considerable number of tourists, generating demand for a substantial number of workers in the leisure services sector.

The unemployment rate improved substantially last year, falling from 4.8 percent in 2016 to 4.1 percent in 2017. The county has now reached a “full employment” scenario, meaning that almost everyone who wants a job already has a job. Under these conditions, job creation is expected to slow and further improvements in the unemployment rate will be minimal.

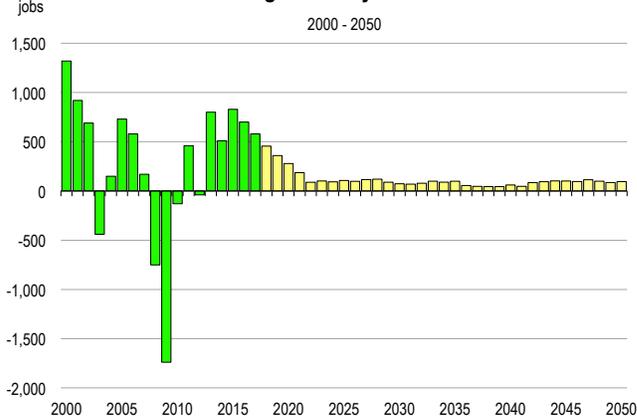
From 2012 to 2017, the Nevada County population grew very slowly, increasing by less than 0.1 percent per year. All of this growth was driven by net migration (people moving into the county, less those moving out). During this span, an average of 250 net migrants entered the county each year.

Nevada County has an old resident base, with more people in retirement age than in the typical childbearing years. Because of this, deaths have outnumbered births by 130 per year. This dynamic is expected to continue over the forecast period, leading to very slow population growth and placing the economy at risk of long-term stagnation. Stagnant economies are often characterized by subpar job creation, slow income growth, and insufficient public revenues, preventing living conditions from improving and making it difficult for local governments to provide adequate public services.

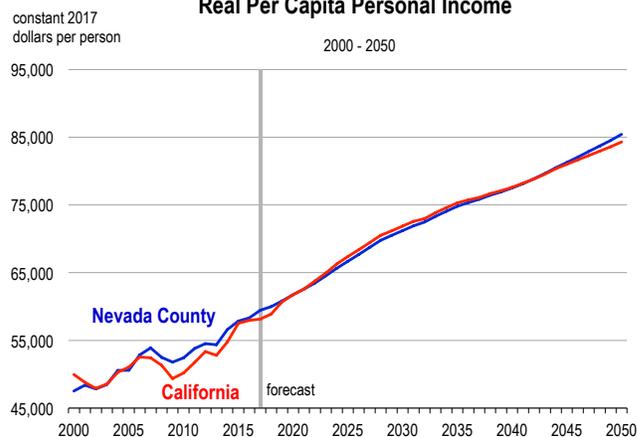
FORECAST HIGHLIGHTS

- Job growth of 1.4 percent is expected in 2018. Between 2018 and 2023, the annual growth rate will average 0.6 percent.

Total Wage & Salary Job Creation



Real Per Capita Personal Income

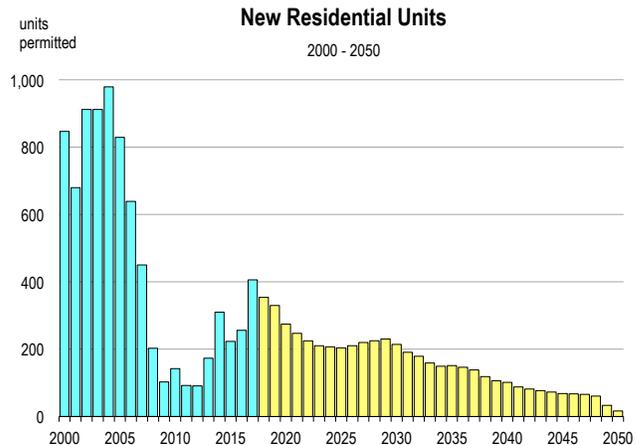
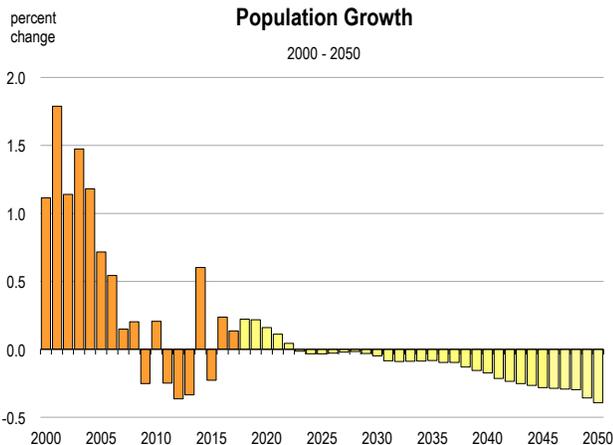


- Between 2018 and 2023, job creation will be concentrated in leisure services, education and healthcare, professional business services, and government. Combined, these industries will account for 80 percent of net job creation in the county.
- Average salaries are below the California average, and will remain so over the foreseeable future. In Nevada County, inflation-adjusted salaries are expected to rise by 1.9 percent per year from 2018 to 2023, which will be similar to statewide growth.
- An average of 260 new homes will be built each year between 2018 and 2023. Virtually all of these will be single-family homes, and very few will be apartments.
- Population growth is expected to average 0.1 percent per year from 2018 to 2023. An average of 250 net migrants will enter the county each year, but deaths will outnumber births by 150 each year.

Nevada County Economic Forecast

2010-2017 History, 2018-2050 Forecast

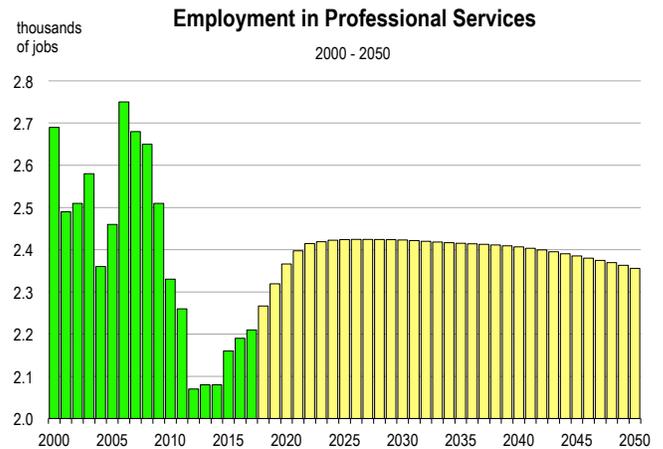
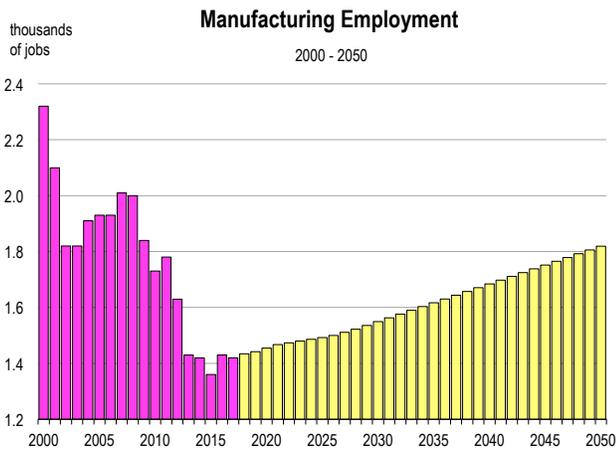
	Population (people)	Net Migration (people)	Registered Vehicles (thousands)	Households (thousands)	New Homes Permitted (homes)	Total Taxable Sales (billions)	Personal Income (billions)	Real Per Capita Income (dollars)	Inflation Rate (% change in CPI)	Real Farm Crop Value (millions)	Real Industrial Production (millions)	Unemploy- ment Rate (percent)
2010	98,635	284	128.4	41.5	142	\$1.01	\$4.46	\$52,407	1.3	10.9	491.1	11.7
2011	98,390	-63	126.6	41.5	92	\$1.07	\$4.69	\$53,802	2.7	16.8	466.2	11.1
2012	98,032	-166	124.1	41.0	91	\$1.11	\$4.84	\$54,511	2.7	15.6	461.9	9.7
2013	97,703	-115	126.8	40.3	173	\$1.16	\$4.88	\$54,365	2.3	19.9	428.7	8.1
2014	98,291	702	128.1	40.3	310	\$1.22	\$5.21	\$56,576	2.8	22.9	443.7	6.5
2015	98,067	-17	130.4	40.3	223	\$1.29	\$5.39	\$57,856	2.6	20.7	432.1	5.4
2016	98,300	399	133.5	40.4	256	\$1.33	\$5.57	\$58,335	3.1	21.5	445.0	4.8
2017	98,433	312	131.3	40.5	406	\$1.44	\$5.85	\$59,450	3.2	21.7	442.3	4.1
2018	98,651	346	132.4	40.8	354	\$1.51	\$6.12	\$59,998	3.7	21.7	475.8	3.8
2019	98,866	347	133.4	41.1	330	\$1.58	\$6.36	\$60,824	3.1	21.9	476.9	3.6
2020	99,024	296	134.3	41.4	275	\$1.66	\$6.69	\$61,744	4.1	22.0	483.8	3.8
2021	99,134	256	135.1	41.6	247	\$1.72	\$6.99	\$62,596	3.6	22.1	498.2	4.0
2022	99,177	202	135.7	41.8	225	\$1.80	\$7.28	\$63,483	3.5	22.2	508.1	4.1
2023	99,164	158	136.2	42.0	210	\$1.89	\$7.59	\$64,533	3.4	22.3	520.1	4.3
2024	99,131	152	136.6	42.2	207	\$1.98	\$7.91	\$65,659	3.3	22.4	532.4	4.4
2025	99,098	162	137.0	42.3	204	\$2.07	\$8.22	\$66,683	3.1	22.5	543.3	4.5
2026	99,070	177	137.3	42.5	210	\$2.17	\$8.53	\$67,666	3.1	22.6	555.2	4.7
2027	99,050	196	137.6	42.7	220	\$2.27	\$8.85	\$68,734	3.0	22.7	568.7	4.7
2028	99,034	210	137.9	42.9	225	\$2.37	\$9.18	\$69,782	3.3	22.8	581.9	4.7
2029	99,003	207	138.2	43.0	230	\$2.45	\$9.49	\$70,508	3.1	22.9	596.3	4.7
2030	98,956	200	138.4	43.2	214	\$2.55	\$9.79	\$71,201	3.0	23.1	611.0	4.7
2031	98,872	174	138.7	43.4	191	\$2.65	\$10.08	\$71,913	2.9	23.2	626.0	4.7
2032	98,783	178	138.9	43.6	179	\$2.76	\$10.39	\$72,493	3.1	23.3	641.4	4.7
2033	98,696	187	139.1	43.7	159	\$2.87	\$10.70	\$73,307	2.7	23.4	657.1	4.7
2034	98,611	197	139.3	43.8	149	\$2.99	\$11.02	\$74,069	2.9	23.5	673.3	4.6
2035	98,529	211	139.5	43.9	151	\$3.10	\$11.37	\$74,822	3.0	23.6	689.8	4.6
2036	98,434	206	139.6	44.1	146	\$3.21	\$11.74	\$75,352	3.4	23.7	706.8	4.6
2037	98,339	220	139.8	44.2	138	\$3.32	\$12.12	\$75,838	3.5	23.8	724.2	4.5
2038	98,211	202	139.9	44.3	119	\$3.44	\$12.51	\$76,427	3.3	23.9	742.0	4.5
2039	98,058	192	140.1	44.4	106	\$3.55	\$12.91	\$76,956	3.5	24.0	760.2	4.4
2040	97,888	187	140.2	44.5	102	\$3.66	\$13.32	\$77,522	3.4	24.1	778.8	4.4
2041	97,678	159	140.3	44.6	88	\$3.77	\$13.72	\$78,154	3.2	24.2	797.8	4.3
2042	97,448	151	140.4	44.6	82	\$3.88	\$14.13	\$78,875	3.1	24.4	817.3	4.3
2043	97,202	147	140.6	44.7	77	\$3.99	\$14.55	\$79,644	3.0	24.5	837.2	4.2
2044	96,944	143	140.8	44.8	73	\$4.10	\$14.96	\$80,503	2.8	24.6	857.6	4.2
2045	96,671	139	140.9	44.8	68	\$4.21	\$15.40	\$81,285	3.0	24.7	878.5	4.1
2046	96,394	144	141.1	44.9	67	\$4.33	\$15.83	\$82,084	2.9	24.8	899.9	4.1
2047	96,112	148	141.3	44.9	66	\$4.45	\$16.27	\$82,893	2.9	24.9	921.9	4.0
2048	95,826	155	141.5	45.0	61	\$4.57	\$16.73	\$83,702	2.9	25.0	944.4	4.0
2049	95,484	103	141.7	45.0	33	\$4.69	\$17.19	\$84,546	2.9	25.1	967.4	3.9
2050	95,108	80	141.9	45.1	17	\$4.82	\$17.66	\$85,442	2.9	25.2	990.8	3.8

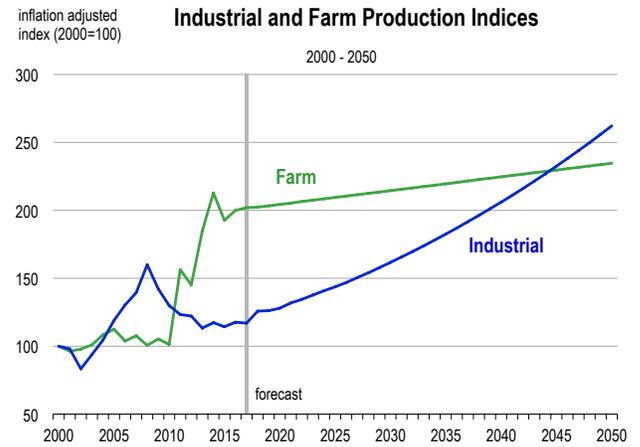
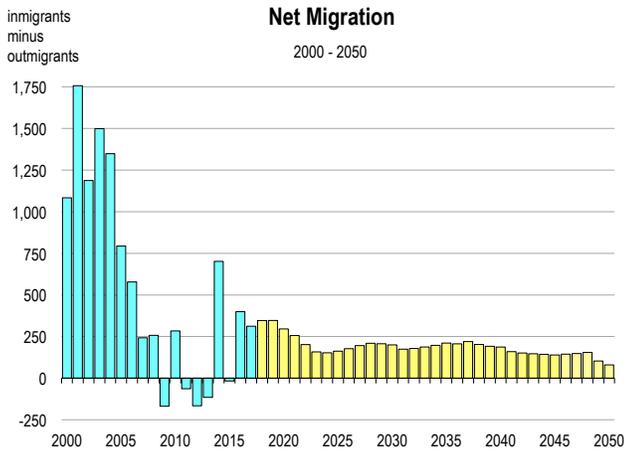
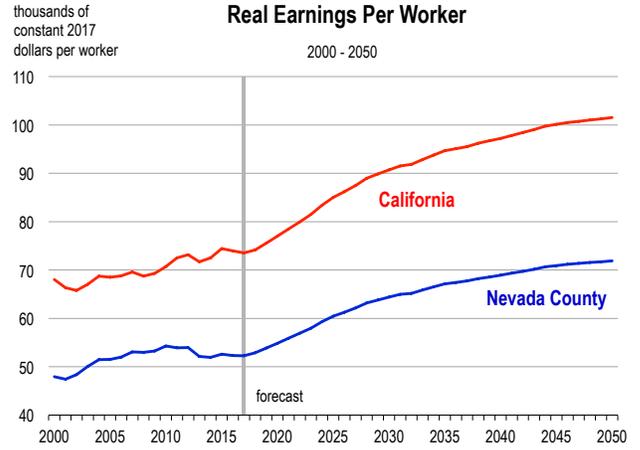
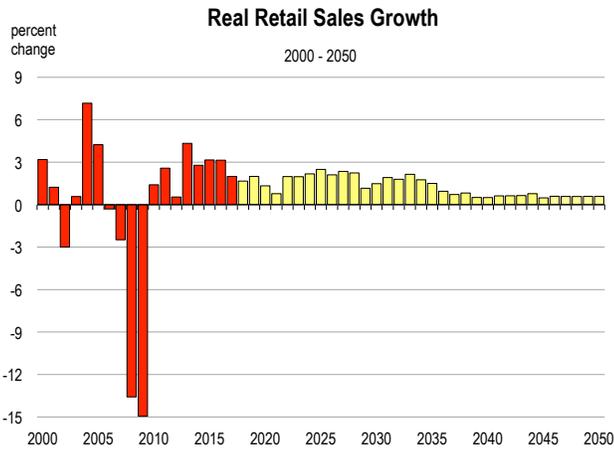


Nevada County Employment Forecast

2010-2017 History, 2018-2050 Forecast

	Total Wage & Salary	Farm	Construction	Manufacturing	Transportation & Utilities	Wholesale & Retail Trade	Financial Activities	Professional Services	Information	Health & Education	Leisure	Government
	employment (thousands of jobs)											
2010	28.27	0.08	2.08	1.73	0.44	4.04	1.36	2.33	0.33	4.29	4.38	6.16
2011	28.73	0.09	2.20	1.78	0.45	4.09	1.35	2.26	0.30	4.50	4.48	6.13
2012	28.69	0.09	2.34	1.63	0.48	4.13	1.42	2.07	0.30	4.67	4.36	5.95
2013	29.49	0.07	2.49	1.43	0.49	4.18	1.48	2.08	0.30	4.99	4.56	5.96
2014	30.00	0.07	2.70	1.42	0.48	4.20	1.34	2.08	0.30	5.03	4.62	6.09
2015	30.83	0.07	2.73	1.36	0.47	4.33	1.29	2.16	0.29	5.32	4.50	6.52
2016	31.53	0.07	2.84	1.43	0.48	4.42	1.32	2.19	0.29	5.44	4.66	6.51
2017	32.11	0.06	2.91	1.42	0.48	4.43	1.32	2.21	0.28	5.48	4.90	6.55
2018	32.57	0.06	2.94	1.43	0.49	4.45	1.31	2.27	0.28	5.60	5.00	6.65
2019	32.93	0.06	2.96	1.44	0.49	4.49	1.30	2.32	0.28	5.66	5.07	6.73
2020	33.20	0.06	2.95	1.45	0.49	4.51	1.30	2.37	0.28	5.71	5.14	6.78
2021	33.39	0.06	2.89	1.47	0.49	4.53	1.29	2.40	0.28	5.75	5.20	6.82
2022	33.48	0.06	2.85	1.47	0.49	4.55	1.29	2.41	0.28	5.79	5.24	6.81
2023	33.58	0.06	2.82	1.48	0.48	4.59	1.29	2.42	0.28	5.82	5.26	6.81
2024	33.67	0.06	2.79	1.49	0.48	4.62	1.29	2.42	0.28	5.85	5.28	6.81
2025	33.78	0.06	2.77	1.49	0.48	4.66	1.29	2.42	0.28	5.87	5.30	6.83
2026	33.88	0.06	2.76	1.50	0.48	4.69	1.29	2.42	0.28	5.89	5.31	6.85
2027	34.00	0.06	2.75	1.51	0.47	4.73	1.29	2.42	0.28	5.91	5.33	6.87
2028	34.12	0.06	2.75	1.52	0.47	4.77	1.29	2.42	0.28	5.91	5.35	6.90
2029	34.21	0.06	2.75	1.54	0.47	4.80	1.29	2.42	0.28	5.91	5.36	6.92
2030	34.28	0.07	2.74	1.55	0.46	4.82	1.29	2.42	0.28	5.90	5.38	6.94
2031	34.35	0.07	2.72	1.56	0.46	4.85	1.29	2.42	0.28	5.90	5.39	6.97
2032	34.43	0.07	2.71	1.58	0.46	4.88	1.29	2.42	0.28	5.90	5.40	6.98
2033	34.53	0.07	2.70	1.59	0.45	4.91	1.29	2.42	0.28	5.89	5.41	7.02
2034	34.62	0.07	2.70	1.60	0.45	4.94	1.29	2.42	0.28	5.89	5.42	7.04
2035	34.72	0.07	2.71	1.62	0.44	4.97	1.29	2.42	0.28	5.89	5.43	7.07
2036	34.77	0.07	2.71	1.63	0.44	4.99	1.29	2.41	0.28	5.88	5.44	7.07
2037	34.82	0.07	2.70	1.64	0.44	5.00	1.29	2.41	0.28	5.88	5.44	7.08
2038	34.86	0.07	2.70	1.66	0.43	5.02	1.29	2.41	0.28	5.87	5.45	7.09
2039	34.91	0.07	2.69	1.67	0.43	5.03	1.29	2.41	0.28	5.87	5.45	7.10
2040	34.97	0.07	2.70	1.68	0.43	5.04	1.29	2.41	0.28	5.88	5.45	7.10
2041	35.02	0.07	2.69	1.70	0.42	5.05	1.29	2.40	0.28	5.87	5.46	7.12
2042	35.10	0.07	2.70	1.71	0.42	5.06	1.29	2.40	0.28	5.89	5.46	7.14
2043	35.20	0.07	2.70	1.72	0.41	5.07	1.29	2.40	0.28	5.91	5.47	7.16
2044	35.30	0.07	2.70	1.74	0.41	5.08	1.29	2.39	0.28	5.92	5.48	7.19
2045	35.40	0.07	2.71	1.75	0.41	5.09	1.30	2.39	0.28	5.95	5.49	7.22
2046	35.50	0.07	2.71	1.77	0.40	5.10	1.30	2.38	0.28	5.96	5.49	7.24
2047	35.61	0.07	2.72	1.78	0.40	5.11	1.30	2.37	0.28	5.99	5.50	7.27
2048	35.71	0.07	2.73	1.79	0.39	5.12	1.30	2.37	0.28	6.01	5.51	7.30
2049	35.80	0.07	2.71	1.81	0.39	5.14	1.30	2.36	0.28	6.04	5.52	7.32
2050	35.89	0.07	2.70	1.82	0.38	5.15	1.30	2.36	0.28	6.07	5.52	7.35





County Economic and Demographic Indicators

Projected Economic Growth (2018-2023)

Expected retail sales growth:	8.3%
Expected job growth:	3.1%
Fastest growing jobs sector:	Professional Services
Expected personal income growth:	8.1%

Expected population growth:	0.5%
Net migration to account for:	100%
Expected growth in number of vehicles:	2.9%

Demographic (2018)

Unemployment rate (April 2018):	3.3%
County rank* in California (58 counties):	15th
Working age (16-64) population:	59.3%

Population with B.A. or higher:	33.8%
Median home selling price (2017):	419,750
Median household income:	\$59,446

Quality of Life

Violent crime rate (2016):	210 per 100,000 persons
County rank* in California (58 counties):	6th
Average commute time to work (2018):	26 minutes

High School drop out rate (2017):	N/A**
Households at/below poverty line (2018):	8.1%

* The county ranked 1st corresponds to the lowest rate in California

** Reliable data not available for Nevada County

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Appendix 4:

Being a Better Board Member

An excerpt from the

Nevada County Grand Jury Report

A BETTER BOARD MEMBER

The Nevada County Grand Jury issued a report called “A Better Board Member” 2016 based upon studies it made of various local government entities. Below is an excerpt of this Grand Jury report that is applicable to all members of a Board of Directors in Nevada County.

Members of Boards of Directors for local tax-supported agencies have a duty to ensure that their agencies are efficient, cost-effective, and responsive to the needs of the public they serve. To accomplish that task, they should be thoroughly familiar with the roles and responsibilities that govern their actions.

RECOMMENDATIONS

- R1.** Board members and prospective Board members of any legislative body should be thoroughly familiar with all aspects of the Brown Act. (F1)
- R2.** Board members should carefully develop, document, and implement their roles and responsibilities and those of their Director in writing. (F2)
- R3.** Board members should comply with the tenets learned in the required ethics and conflict-of-interest training. (F3)
- R4.** Board members should know their financial responsibilities and be familiar with financial statements. (F4)
- R5.** Board members should seek out education and training so they can provide oversight from a position of understanding instead of relying on their Director. (F5)
- R6.** Board members should actively seek out and attend training opportunities. (F5)
- R7.** Boards should add discussion of this report to an agenda of a future meeting. (F1-F5)

REQUEST FOR RESPONSES

The Nevada County Grand Jury only asks that current and potential Board members carefully consider the topics covered in this report. No responses are requested.

BIBLIOGRAPHY

- AB1234 Local Ethics Training** – Fair Political Practices Commission
- A Guide to the Ralph M. Brown Act** – League of California Cities, 2010
- California Government Code Sections 53234-53235.2** – Ethics Training
- California Government Code Sections 54950-54963** – The Ralph M. Brown Act, 1953
- California Government Code Section 81000-81016** – Political Reform Act of 1974

Nevada County Civil Grand Jury Reports – as listed below:

1. Truckee Fire Protection District Board of Directors, 2010
2. Grass Valley School District Superintendent and Board of Trustees, 2012
3. Truckee Donner Public Utility District, 2012
4. Mystic Mine Road Community Services District, 2013
5. Nevada County Consolidated Fire District Board of Directors, 2013
6. Truckee Donner Recreation and Park District, 2013
7. Nevada Joint Union High School District Board of Trustees, 2014
8. Washington County Water District, 2015

Open, Ethical Leadership: AB1234 Compliance Training for Special Districts – California
Special Districts Association, Special District Risk Management Authority

Citation

Nevada County Civil Grand Jury. 2016. A Better Board Member, Version 5.0, 2015-2016. 15-
pages. Nevada City, California. Available on-line at: <[http://nccourt.net/divisions/gj-
reports.shtm](http://nccourt.net/divisions/gj-reports.shtm)>.

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5-1a Watershed Overview

The Truckee River has been selected as a priority or 'focus' watershed because of the high resource value of its waters, the threats to water quality from current and potential human activities in the watershed, and the RWQCB staff's ongoing monitoring and planning programs which target this area. Other considerations include the existence of bistate, interagency cooperative efforts, which could facilitate watershed planning and implementation, and the interest of homeowners near Donner Lake in a voluntary monitoring effort.

The Truckee River watershed in California (Figure 2.1) encompasses approximately 273,920 acres in portions of Placer, Nevada, and Sierra Counties. The Truckee River, which emerges from the northwest periphery of Lake Tahoe, is considered a separate stream from the Upper Truckee River, which is Lake Tahoe's largest tributary. The Little Truckee River watershed, although mapped as a separate hydrologic unit, must be considered in hydrologic, sediment, and nutrient budgeting for the main river. Both of these watersheds have high resource values, including heavy summer and winter outdoor recreational use, and support of threatened/endangered species in both California and Nevada. Donner Memorial State Park is located in the watershed. The California Department of Fish and Game (DFG) manage part of the river as a wild trout stream. The DFG considers Martis Creek, a tributary to the Truckee River, to be a 'Significant Natural Area' (SNA) as the most typical habitat of the threatened Lahontan cutthroat trout. Vernal pool wetlands in Martis Valley provide habitat for the Plumas ivesia, a plant species under consideration for federal threatened/endangered species listing. Sagehen Creek, a tributary to the Truckee River, is a SNA for three species, including riparian habitat-dependent willow flycatcher. A segment of the Truckee River and several of its tributaries are under consideration for inclusion in the federal Wild and Scenic Rivers system. The Truckee River provides about 75 percent of the municipal water supply for the Reno-Sparks, Nevada area. The Sierra Pacific Power Company, Reno's downstream water purveyors, operated hydropower facilities on the river. Releases from Lake Tahoe and other reservoirs are managed to maintain fishery flows in the river and to provide critical water supplies for maintenance of the threatened Lahontan cutthroat trout and endangered cui-ui populations in Pyramid Lake, Nevada. The Truckee River watershed in California includes the communities of Tahoe City, Alpine Meadows, Squaw Valley, Truckee, Hirschdale, and Floriston. Much of the watershed is within the Tahoe and Toiyabe National Forests. Land use in the portion of the Truckee River watershed from the Lake Tahoe Dam to Alpine Meadows Road is under the jurisdiction of the Tahoe Regional Planning Agency (TRPA). The recently incorporated Town of Truckee (with a current population of about 11,300) and surrounding portions of the Martis Valley have the greatest potential for new growth in the northern part of the Lahontan Region.

2.1b Water Quality Problems and Issues

The water quality of the Truckee River system has been impacted by a variety of sources. The watershed was extensively logged in the nineteenth century, and there was short-lived mining rush in the 1860s. Management of modern timber harvest practices in the watershed is an issue of increasing focus and concern for the Regional Board. Increasingly, more timber harvesting is occurring, due to increased lumber prices, decreased timber harvesting on public lands, and recent wildland fires. Approximately 67,040 total acres have been harvested on both private and federal lands since about 1989 (CH2Mhill 1996). Hydrologic modification, including alteration of wetlands and fisheries habitat, has occurred in connection with dam and reservoir construction, ski resort development, and sand and gravel mining. The river once supported a superior trout fishery, but as a result of flow and habitat modification, the fishery resource has been severely diminished (Snider/DFG 1995).

Lahontan Regional Water Quality Control Board. 2005. Watershed Management Initiative Chapter, Excerpt of Section 2.1 (Lower) Truckee River Watershed (1 of 5 Focus Watersheds). Available on-line at: <https://www.waterboards.ca.gov/lahontan/water_issues/programs/watershed_management/docs/final_05_table_of_contents.pdf>.

Clean Water Act Section 304(l) and 303(d) lists/TMDLs -- The Truckee River is on the federal Clean Water Act Section 303(d) list for siltation. Several tributaries (including Squaw Creek, Martis Creek, Bronco Creek, Bear Creek, Gray Creek, Donner Lake, and Stampede Reservoir) are also on the Section 303(d) list for siltation, priority organics or pesticides. Limited monitoring shows radioactive elements in Sagehen Creek, presumably from natural weathering of Sierra Nevada granite. Localized high uranium in ground water has affected municipal supplies in the Lake Tahoe Basin, and additional monitoring may be desirable to determine whether a similar problem occurs in the Truckee River watershed. The Truckee River and Squaw Creek are one of the RWQCB's highest priority water bodies for the development of Total Maximum Daily Loads (TMDLs). The RWQCB's ongoing and proposed short-term activities in the watershed include the development and implementation of TMDLs for sediment. The activities also include coordination with the State of Nevada on the applicability of the Nevada TMDL for the Truckee River to the river reaches in California, and coordination on consistent standards for the river in both states.

Erosion -- Portions of the watershed are highly erosive. Turbidity increases after intense storms. Storm events have increased suspended sediment to the extent that Nevada water purveyors have been unable to filter municipal supplies, and water rationing has been necessary. Significant concerns about water system reliability were generated after one such turbidity event in July 1992 that lasted 20 days. During this event, Sierra Pacific Power Company's treatment plants were shut down for several days. Within two days, water storage was near depletion and the Nevada Health Department was notified that, without mandatory water use restrictions, partially disinfected water would enter the distribution system (Sierra Pacific Power Company 1994). Concern about erosion has increased due to extensive watershed damage by several catastrophic forest fires in 1994.

Point and Nonpoint Source Impacts -- Urban development, several highways, and a railroad are located adjacent to surface waters; hazardous substance spill and stormwater discharges are significant concerns. A Highway 267 bypass around the Town of Truckee is being proposed. Railroad traffic could increase by 50-70% due to the merger of the Southern Pacific and Union Pacific railroads. Significant vehicular traffic increases in and near Truckee are projected in relation to growth under the Town's new General Plan. Increases in railroad and highway traffic, and in the associated risks of spills, could affect the quality of stormwater discharges. The Eastern Regional Landfill, an unlined Class III landfill located close to the river, is now undergoing final closure. Elevated levels of sediment and heavy metals have recently been detected in a drainage emerging from the landfill. Other current or potential sources of pollutant loading to surface waters include past and present disposal of treated wastewater, septic systems, reservoir releases, construction activities, highway and railroad maintenance, livestock grazing, and golf courses.

Concerns about point and nonpoint source water quality impacts in the Truckee River watershed arose at the same time that comprehensive watershed planning began for Lake Tahoe. Consideration was once given to designation of a bi-state Clean Water Act Section 208 planning area for the watershed, as was done for Lake Tahoe under Tahoe Regional Planning Agency (TRPA). Nonpoint source problem inventories of the Truckee River watershed and recommendations for implementation were made in the 1980s by the Placer and Nevada County Resource Conservation Districts using Clean Water Section 208 grant funds. A Best Management Practices (BMPs) handbook was developed for the eastern portions of Placer and Nevada Counties, and revisions were made to local grading ordinances. However, due to lack of funds, little progress was made on organized implementation of the 208 Study's recommendations.

Threat of Nutrient Loading -- Although the Truckee River is not currently impaired by nutrient loading, nutrients are considered a significant threat. Due to concern about nutrient loading to the river from domestic wastewater, the RWQCB has prohibited, within a portion of the watershed, new septic system discharges (with limited exemptions), and discharges from formerly used secondary wastewater treatment plants. (Past wastewater discharges are probably still affecting the quality of springs entering the Truckee River from a former disposal area near Tahoe City, and the quality of the Squaw Valley drinking water aquifer.) Any new wastewater discharges in the RWQCB's prohibition area are required to provide the same level of nitrogen removal as the tertiary Tahoe-Truckee Sanitation Agency (TTSA) treatment plant. TTSA is a regional facility, which treats wastewater from five member agencies in the North Lake Tahoe and Truckee areas. It discharges treated effluent indirectly to the river through ground water leachfield

discharge and experimental sprayfield irrigation. Although TTSA provides advanced treatment, nutrient loading to the Truckee River and Martis Creek is still a concern, and increased nitrate loading has been documented downstream of the TTSA plant. The phosphorus absorption capability of TTSA's leachfield may soon be reached. Present disposal areas are proposed for expansion and to be supplemented by development of new land disposal areas. TTSA currently has unused treatment capacity, but the planned new growth in and near its service area will eventually make expansion of the plant or construction of other treatment facilities necessary. Some existing subdivisions, which are now permitted to use septic systems, may also eventually need to be sewerred to protect ground water and reduce total nutrient loading to the river. The water quality impacts of increased wastewater discharges in the Truckee River watershed will need careful evaluation and mitigation. The RWQCB's ongoing and proposed monitoring and assessment activities for the watershed include formulation of a nutrient budget for the Truckee River.

Water Quality and Water Quantity Issues -- Water quality and water quantity are significantly interrelated in the Truckee River watershed. During the recent drought, portions of the river were dry for long periods, and dissolved constituent concentrations increased greatly in reaches with low flows. Reservoir releases for downstream uses were controversial because of their impacts on the reservoirs' own aquatic life and recreational uses. During normal to high water conditions, reservoir management is of concern in relation to shoreline erosion. New reservoirs have been conceptually proposed for two tributary watersheds near the California-Nevada state line.

Consumptive use of all surface and some ground waters of the Truckee River watershed is regulated by an interstate compact which has been approved by Congress as PL 101-618; flows are managed by a federal watermaster under a court decree. Revisions in operating criteria for the river/reservoir system are currently being proposed. The draft Truckee River Operating Agreement Joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) Study has identified instream flow for fisheries and water quality of the Truckee River as the key concerns for flow management. Regulated flows from Donner, Martis, and Prosser Creeks, the Little Truckee River (Stampede/Boca Reservoirs), and the dam at Lake Tahoe all influence base flows and the water quality of the main stem of the Truckee River. The Operating Agreement will propose flow amendments for the river that may affect the assimilative capacity of the river for wasteloads (e.g., discharges from the TTSA leachfield).

Donner Lake -- Donner Lake is historically and recreationally important. Municipal supplies are diverted from the lake for use at surrounding development, and the lake is also managed as a reservoir for municipal use in Nevada. Donner Lake's watershed is the most highly urbanized watershed of any lake in the Truckee River watershed. It is affected by forest management activities and stormwater from Interstate 80, the railroad, subdivisions and commercial development. Development of new private piers has increased; local concerns about the impacts of boating have led to recent adoption of restrictions on fueling. Sampling of fish tissue and sediment from Donner Lake under the SWRCB's TSMP shows elevated levels of PCBs, chlordane, silver, and zinc. The sources of these pollutants are unknown. Property owners around the lake have recently become concerned about the potential for eutrophication of the lake, and have funded monitoring by the University of Nevada. A 1998 study by the UCD Tahoe Research Group showed MTBE in the lake during the summer (the season of heavy boating use).

Squaw Creek -- Because of significant sediment loading into the Creek, a TMDL is planned for Squaw Creek. The RWQCB has received numerous complaints regarding siltation from new and existing construction.

Ground water -- There are a number of ground water-related issues in the Truckee River watershed. In certain areas, ground water contains naturally high levels of arsenic and other minerals. Ground water contamination is a concern because of the unsuitability of some soils in the region for septic systems. Toxic substances contamination of ground water has occurred near the railroad station in Truckee, and from a number of underground tank sites in the Truckee area. Ground water quantity is of concern because the interstate water compact places limits on total diversions for consumptive use from all sources in the Truckee River watershed, including some ground water. Local ground water supplies may not be adequate to serve all existing needs plus planned growth.

Appendix 6: Other Water Users & Mutual Water Companies



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A6-1: INTRODUCTION

The purpose of this Appendix is to provide readers with a broad overview of all the water users in the Truckee River watershed, with an emphasis on mutual water companies. Over the past years, there have been 131 water right permit applications submitted for surface waters in the Truckee River Watershed according to the State Water boards Electronic Water Rights Information Management System (eWRIMS). This state database shows that many of the 131 applications have been either Licensed, Permitted, or Cancelled and this demonstrates active and on-going interest in water supply within the watershed. While a detailed analysis of this database is beyond the scope of this MSR, baseline information about the range of water users is described in this Appendix with a focus on mutual water companies. The twenty largest of the water right holders are listed in Table A6-1 (next page). The Washoe County Water Conservation District and the Bureau of Reclamation are the two largest public users of surface water in the Truckee watershed as shown in Table A6-1 (next page).

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Table A6-1: Twenty largest of these water right holders on Truckee River Watershed

Primary Owner	Amount in acre-ft/yr	County	Application Number	Permit ID	License ID	WR Type	Status	Status Date	Source of Water
Washoe County W C D	40850	Nevada	A005169	005286	003723	Appropriative	Licensed	08/25/1926	Boca Reservoir-Little Truckee River
U.S. Bureau of Reclamation	30000	Nevada	A018006	011666	010180	Appropriative	Licensed	02/18/1958	Prosser Creek
U.S. Bureau of Reclamation	30000	Nevada	A031488	021367		Appropriative	Permitted	08/08/2016	Prosser Creek
Truckee Meadows Water Authority	15600		A028983			Appropriative	Cancelled	12/18/2017	
Truckee-Donner Public Utility District	1260		A023350			Appropriative	Cancelled	12/18/2017	
Trimont Land Company	1206	Placer	A023849	016619		Appropriative	Permitted	08/19/1971	Martis Creek
Trimont Land Company	1206	Placer	A023851	016618		Appropriative	Permitted	08/19/1971	Martis Creek
Squaw Valley Public Service District	1200	Placer	A031486			Appropriative	Pending	12/29/2003	Squaw Creek-Truckee River
Trimont Land Company	890	Placer	A022822	015905		Appropriative	Permitted	06/16/1967	Martis Creek
Kronish Trust	400	Sierra	A028462			Appropriative	Pending	05/24/1985	Bull Ranch Creek-
Truckee Tahoe Airport District	350	Nevada	A017415	013685	010411	Appropriative	Licensed	01/04/1957	Martis Creek
Northstar Community Services District	305.2	Placer	A022823	015906		Appropriative	Permitted	06/16/1967	Martis Creek
Truckee-Donner PUD	181		A025624			Appropriative	Cancelled	12/18/2017	
Truckee-Donner PUD	181	Placer	A020443	013815		Appropriative	Permitted	10/18/1961	Squaw Creek-Truckee River
Truckee-Donner PUD	181	Nevada	A022573	015695		Appropriative	Permitted	09/13/1966	Trout Creek-Truckee River
Lahontan Golf Club	125	Placer	A018409	013686	009685	Appropriative	Licensed	11/13/1958	Martis Creek
Kronish Trust	120	Sierra	A028461			Appropriative	Pending	05/24/1985	Bull Ranch Creek-Truckee River
Donner Euer Valley A Corporation	115	Nevada	A021926	014720	009800	Appropriative	Licensed	10/08/1964	South Fork Prosser Creek
Donner Euer ValleyA Corp.	59.7	Nevada	A022351	015136	009801	Appropriative	Licensed	12/13/1965	So Fk Prosser
Glenshire/Devonshire Residents Assn Inc	43	Nevada	A023349			Appropriative	Pending	09/25/1969	Trout Creek-Truckee River

Source: State Water boards Electronic Water Rights Information Management System (eWRIMS)

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Table for Appendix 20: Surface Water Usage Reported for Water Year 2016-2017 (values in acre-feet)														Annual	
Agency	Actual/ Estimated	2016			2017							Total			
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul		Aug	Sep	
Public Utility Water Purveyors															
Truckee-Donner PUD (1)	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Subtotal														0
Community Water Purveyors <i>(Estimated using 2016 calendar year values. New values will be released later in 2018)</i>															
Northstar C.S.D. (2,3) (M&I)	Estimated	<i>(From Big Springs)</i>												83	
	Subtotal														83
Non-Community Water Purveyors <i>(Estimated using 2016 calendar year values. New values will be released later in 2018)</i>															
Tahoe Timber Trails Water System	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eastern Regional Materials Recovery Facility	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hobart Work Center	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Silver Creek Camp Ground	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aggregates Martis Valley	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fir Crags Summer Home Tract	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TNF- Logger *Stampeded RC	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zephr Lodge, Northstar	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0
George Gardai	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UC Sagehen Creek Field Station	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Subtotal														0
Golf Courses* <i>(Estimated using 2016 calendar year values. New values will be released later in 2018)</i>															
Ponderosa Gold Course	Estimated	<i>(Source unknown)</i>												27	
Northstar (2,3)	Estimated	<i>(From Big Springs)</i>												48	
	Subtotal														75
														Total	158
1: TDPUD has an allocation of Truckee River flows but does not use it, has no infrastructure to access it, and has no plans to use it.															
2: NCSD holds riparian water rights for use of Big Springs, which is outside of the MVGB. A portion of this water is used for limited M&I use within the MVGB and Northstar Golf Course.															
3: 2015 and 2017 values not reported at this time.															
4: Estimated and obtained from Annual Inventory of Water Use Lake Tahoe & Truckee River Basins Calendar Year 2016 (DWR/TROA annual report 2016).															
Source: TDPUD, 2018 SGMA Annual Report by GEL.															

Surface water in the Truckee area is primarily exported to the State of Nevada and is governed by the Truckee River Operating Agreement (TROA). One interesting source of surface water for local water users is Big Springs, located near the Northstar Resort within the Truckee watershed. Both Northstar Resort and the Northstar Community Services District use water from the Big Springs, primarily for snowmaking. A portion of the Big Spring supply does recharge the MVGB aquifer by storing water as snow, which later melts, becomes runoff, and infiltrates. The fraction used for municipal and commercial purposes is also sent to the T-TSA water treatment plant and recharged to groundwater at their leach fields. However, the amount of groundwater recharge attributable to surface water from Big Springs has not yet been quantified. A second surface water source is used for the Ponderosa Golf Course, but its diversion point is unidentified. Some deep percolation from turf irrigation also provides some groundwater recharge within the MVGB (TDPUD et. al., 2016 Alternative to SGMA submittal).

Groundwater

The geology, hydrology, water quality, habitat, surface water resources, and groundwater resources of the Martis Valley Groundwater Basin is described in a report¹ by the Truckee River Watershed Council. There are a total of 294 wells in the Martis Valley Groundwater Basin (MVGB) as listed in Chapter 4 (Table 4-11) and shown in Figures 4-9 and 4-12. This includes a small number of large, private wells which use groundwater, primarily, for snowmaking and golf course irrigation along with one aggregate mining operation in the MVGB. There are private residential wells in the outlying areas of the MVGB that also use groundwater (TDPUD et. al., 2016 Alternative to SGMA submittal). Additionally, there are small developed areas within the Town of Truckee boundaries that use private wells and these parcels are not supplied water by the TDPUD (TDPUD, 2016 – UWMP). The Ponderosa Golf Course and Teichert Aggregates are the two largest privately-owned groundwater users in the area. These entities pump groundwater for their own use and do not provide water for public use.

Well Development, Management and Closure Programs

Nevada County's Well Ordinance is part of its Land Use and Development Code. The County's Well Ordinance provides standards for design, construction and operation of individual, small private and public water supplies in Nevada County. The Ordinance provides requirements for permitting, construction, repair, and destruction of water wells, monitoring wells and cathodic protection wells.

The Town of Truckee does not exercise regulatory authority over private wells in the Town. However, the Town General Plan does discourage the use of private wells to serve new development. Well permits are issued by Nevada County and subject to the provisions of the Truckee River Operating Agreement (TDPUD et. al., 2016 Alternative to SGMA submittal).

Other Water Users

LAFCo's 2005 MSR for Eastern County Water Services listed approximately 7 other water users in Eastern Nevada County as shown in Table A6-2, below.

¹ Truckee River Watershed Council. April 2012. Martis Watershed Assessment for Placer and Nevada Counties, California. Authored by David Shaw and Brian Hastings (Balance Hydrologics, Inc.); Kevin Drake and Michael Hogan (Integrated Environmental Restoration Services); and Susan Lindström, Ph.D. (Consulting Archaeologist). 249-pages. Available online at: https://www.truckeeriverwc.org/images/documents/Martis_Watershed_Assessment_Final_041012_compressed.pdf

Table A6-2: Water Provider List from 2005 MSR				
Water System Name	Type of Provider	Location	Private Provider	Public Provider
Floriston	Private Homeowner's Association	Floriston, CA.	X	
United Trails	Private RV Resort and Campground	10068 Hirschdale Road in Hirschdale	X	
Tahoe Timber Trails	Private RV Park Membership Campground	16021 Hobart Mills Road, Truckee	X	
Teichert Aggregates	Private	13879 Joerger Dr., Truckee	X	
Boca Rest Campground	US Forest Service	Hwy 89N, Truckee		X
Martis Creek Campground	US Army Corps of Engineers	Martis Creek Road, Truckee		X
Ponderosa Golf Course	Owned by the Airport District	10040 Reynold Way, Truckee		X
Prosser Campground USFS	US Forest Service	Highway 89 N., Truckee		X
Tahoe Truckee Unified School District	Public School	11839 Donner Pass Road, Truckee		X

Source: Nevada LAFCO, 2005 MSR on Eastern County Water

The five public water service providers listed in Table A6-2, above, are not under the purview of LAFCO and therefore are not described in this MSR. Four water service providers listed in Table A6-2 are private water service providers. Teichert Aggregates and United Trails are not listed in the State Water Resource Control Board's State Safe Drinking Water Information System database and are therefore not listed in Table A6—3, below. Tahoe Timber Trails and the Floriston water system are listed in Table A6—2, above, (and also listed in State Water Resource Control Board's State Safe Drinking Water Information System database) and additional details are provided therein. In eastern Nevada County private water service providers include the following general types: 1) private domestic well owners; 2) mobile home parks, 3) common-interest developments, 4) mutual water companies, and 5) investor-owned utilities (IOUs). For example, the Donner Creek Mobile Home water system serves approximately 65 water users near Truckee.

The California Public Utilities Commission² (CPUC) is responsible for ensuring that California's investor-owned water utilities deliver clean, safe, and reliable water to their customers at reasonable rates. The CPUC regulates over a 100 investor-owned water and sewer utilities in California providing water service to about 16 percent of California's residents. However, there are no CPUC regulated investor-owned water utilities in Nevada County, since the largest surface water users are public districts such as DSPUD, TDPUD, and the Nevada Irrigation District which are not subject to CPUC jurisdiction.

The eastern Nevada County area, including Truckee, has a number of mutual water companies, small shared water systems, and private wells that provide water service in lieu of a public agency. Regulatory oversight for these water systems varies depending on the type of entity and the number of connections served. The State Water Resources Control Board lists a total of 136 water systems (public and private) operating in Nevada County and these systems may use either groundwater or surface water. The MSR consultants queried the State Safe Drinking Water Information System (SDWIS) database and separated the water systems by geography to consider only those systems located in the eastern part of the County and found 52 were located in the eastern County. 27 (of the 52) water systems are classified as "inactive" and are not studied within in this MSR. Of the remaining 25 water systems, 13 are owned by public agencies such as the U.S. Forest Service or other federal, state, or local agency. Twelve of the water systems are privately owned and these are listed in Table A6-4, below. Table A6-4, contains a column called "Type" with three acronyms: NTNC, NC, and C. The definitions for these acronyms are provided below.

- Community Water Systems (C): serve the same people year-round (e.g., in homes or businesses);
- Non-Transient, Non-Community Water System (NTNC): serve the same people, but not year-round (e.g., schools that have their own water system); and
- Transient Non-Community Water System (NC): do not consistently serve the same people (e.g., rest stops, campgrounds, gas stations).

² Data on CPUC is from <http://www.cpuc.ca.gov/water/>

Table A6-4:

Privately Owned Water Systems in Eastern Nevada County					
Water System No.	Water System Name	Type	Status	Principal County Served	Primary Source Water Type
CA2900507	TAHOE TIMBER TRAILS	NTNC	A	NEVADA	GW
CA2904020	TAHOE FOREST CHURCH	NC	A	NEVADA	GW
CA2902367	TRUCKEE RIVER RV PARK	NC	A	NEVADA	GW
CA2900569	DONNER MINE CAMP INC	NC	A	NEVADA	GW
CA2900549	MARIN SIERRA BOY SCOUTS OF AMERICA	NC	A	NEVADA	GW
CA2900533	HARMONY RIDGE RESORT	NC	A	NEVADA	GW
CA2900520	CAMP ROSS RELLES	NC	A	NEVADA	GW
CA2900516	CAMP RUCKER LAKE	NC	A	NEVADA	GW
CA2900508	KINGVALE PROPERTY OWNERS & WATER USERS	NC	A	NEVADA	GW
CA2900504	SIERRA SUPERSTOP #3	NC	A	NEVADA	GW
CA2910011	PLAVADA COMMUNITY ASSOCIATION	C	A	NEVADA	GW
CA2900502	FLORISTON WATER SYSTEM	C	A	NEVADA	GU
From the State Water Resources Control Board Data source: https://sdwis.waterboards.ca.gov/PDWW/JSP/WaterSystems.jsp?PointOfContactType=none&number=&name=&county=Nevada Data downloaded by Kateri Harrison, SWALE Inc. on 14February2019					

Table A6-4, above lists the private water service providers operating in the MSR Study Area which are listed with the State Water Resources Control Board. There may be other private water service providers in the study area that are not listed with the Water Resources Control Board and therefore information about them is limited. Private and mutual water companies are licensed by the Nevada County Department of Environmental Health. Water use by private companies and small mutual water companies are not evaluated in Chapters 1-9 of this MSR report. However, this Appendix provides background information on these types of companies.

A6-2: MUTUAL WATER COMPANIES

The State Legislature has recently directed LAFCOs to consider the role and provision of private water services within their respective counties as it relates to supporting growth and development. The Legislature’s direction is contained in Assembly Bill 54 - Mutual Water Companies. Additional legislation affecting mutual water companies which has recently been signed by the Governor includes Assembly Bill 2443, Assembly Bill 1077, Assembly Bill 656, Assembly Bill 240, and Senate Bill 88. Mutual water companies are non-profit and are owned by all the property owners served. The Corporations Code imposes numerous transparency requirements on mutual water companies. Mutual water companies are required to hold annual shareholders’ meetings and, in general, to distribute copies of financial statements to

shareholders every year. The Corporations Code also provides for the inspection of accounting books and records by shareholders.

This Appendix focuses on mutual water companies. Both mutual water companies and companies owned by homeowner associations are exempt from CPUC regulation if they serve only their stockholders or members. Mutuals are private not-for-profit organizations and they provide water service to their customers from groundwater and surface water resources and they are affected by the same concerns for water quality, supply reliability, and costs as the public water providers. Shares in a mutual water company are appurtenant to specified lands.

The California Corporations Code addresses the governance and organization of mutuals. The California Health and Safety Code addresses the public health operations of mutuals. The State Drinking Water Division helps to enforce the Health and Safety Code. Although many County Environmental Health Departments have water quality standards with which mutual water companies must generally comply, none of the two mutual water companies listed in this appendix are regulated by Nevada County Environmental Health; rather they are governed by state code. No other public agency oversees the operations of mutual water companies; hence the legislature has recently enacted laws granting LAFCo some oversight.

A6-2a: New Legislation

The State Legislature has approved six new laws that apply to mutual water companies and these new laws are summarized in this section as listed below:

- Assembly Bill 2443 (Rendon). 2014
- Assembly Bill 1077 (Holden). 2015
- Assembly Bill 656 (Garcia). 2015
- Assembly Bill 240 (Rendon). 2013
- Senate Bill 88 (Introduced by Committee on Budget and Fiscal Review). 2015.
- Assembly Bill 54 (Solorio). 2011

Readers are encouraged to read the new laws in full and this summary contains links to the full text for your convenience.

Assembly Bill 2443

Assembly Bill 2443 was signed by Gov. Jerry Brown in October of 2014 and it amends California's Water Service Duplication Statute to allow cities the opportunity to provide recycled water service within the service area of private water companies, under some circumstances. The full text of AB 2443 is available at: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140AB2443..

AB 1077

AB 1077 was introduced by Assembly member Chris Holden (D-Pasadena) to enhance open meeting requirements on mutual water companies. This law was signed by Governor Brown on October 9, 2015. AB 1077 strengthens the Mutual Water Company Open Meeting Act by requiring all shareholders to be guaranteed, at a minimum, the right to teleconference into any meeting and prohibiting the water company's board from meeting exclusively in executive session. The full text of AB 1077 is available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160AB1077.

Assembly Bill 656

AB 656 is a bill introduced by Assemblywoman Cristina Garcia (58th AD) and signed into law by Governor Brown on September 3, 2015 to allow two or more mutual water companies and one or more public agencies, to enter into a joint powers agreement to provide lower cost insurance while also generating funds for technical assistance. AB 656 also is a vehicle to assist mutual water companies in applying for infrastructure and water quality improvement funding through water bond funds. This bill has passed both the Assembly and Senate. It was presented to the Governor for signature on 8/27/15. The full text of AB 656 is available at:



http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160AB656.

Assembly Bill 240

Assembly Bill 240 was approved by the California Assembly and Senate and signed by Governor Brown on October 8, 2013. It is effective as of January 1, 2014 and codified in the California Corporations Code. The full text of AB240 is available at: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201320140AB240. This law establishes several new requirements for mutual water companies including:

- Mutual Water Company Open Meeting Act: Many of the requirements for open meetings and records that were previously applicable to homeowner associations under the Davis-Stirling Act are now applicable to mutual water companies, including posting of meeting notices in advance of meetings. This applies only to mutual water companies that operate a public water system serving 15 or more customer connections. See §§ Corporations Code 14305-14307 for more details.
- Budget: The board of a mutual must adopt an annual budget prior to the start of each fiscal year. The board must contract with a certified public accountant or public accountant to conduct an annual review of the financial records and reports of the company, subject to generally accepted accounting standards.
- New Powers Regarding Assessments, Rates and Charges: This allows mutuals to address the financial impact of having a member become delinquent. Corporations Code § 14304 now allows a mutual water company to include a provision in its articles or bylaws allowing the company to record a notice of lien against the real property of a member to secure the collection of rates, charges and assessments owed to the company by the member based on provision of water service to the property.
- Expands Board Member Training Requirement: AB54 established a one-time requirement for board members of mutual water companies to complete a two-hour training on their duties as directors and the regulations applicable to mutuals. AB 240 expands this training requirement to occur at least once every six years. Directors who completed their training in 2012 will not need to repeat the training until 2018; however new directors will need to complete the training within six months of taking office.
- Transparent Records: Mutual water companies must now make specific documents, including agendas, minutes, budget, and water quality records available to shareholders and customers.

Senate Bill 88

Senate Bill 88 was approved by the California Assembly and Senate and signed by Governor Brown in June 2015. It becomes effective as of January 1, 2016. It is codified in portions of the California Health and Safety Code, Public Resources Code, and Water Code. The full text of SB88 is available at: http://www.leginfo.ca.gov/pub/15-16/bill/sen/sb_0051-0100/sb_88_bill_20150619_enrolled.html. This law establishes several new requirements that may be applicable mutual water companies including:

- new reporting requirements mandate that all diverters submit their monthly diversion records each year. During dry water years, submittal of diversion records on a monthly basis may also be required. This new water measurement law affects water right holders and diverters who divert more than 10 acre-feet of water per year.

- amendments to Section 377 of the Water Code, allowing civil liability of up to \$10,000 for violations of water conservation programs or a State emergency regulation.
- Provision to public water suppliers the power to impose civil fines of up to \$10,000 for violations of water conservation programs,
- Suspension of environmental review for certain water recycling and drought-related projects.
- Authorization to the State Water Resources Control Board to require consolidation of water systems in disadvantaged communities in unincorporated areas or served by mutual water companies with a chronic lack of adequate, safe, and reliable drinking water.

The State Water Resources Control Board is holding public informational meetings on the implementation of the new emergency regulations contained in SB 88 throughout California in November and December 2015.

Assembly Bill 54

The California Legislature has recently enacted a series of amendments to various statutes to establish formal reporting relationships between LAFCOs and mutual water companies. Specifically, California State Assembly Bill 54 is intended to improve accountability to the public of mutual water companies. This Bill was approved and signed into law in 2011 and became effective January 1, 2012. It is codified in California Governance Code and Corporations Code.

The Legislation requires these entities to:

- File maps of their service areas with LAFCOs
- Provide service information to LAFCOs when LAFCO prepares MSRs
- Maintain a financial reserve fund as specified by AB54.
- Comply with the California Safe Drinking Water Act
- Provide training to board members regarding the duties of board members, the duty to avoid contractual conflicts of interest and fiduciary duties, the duty to comply with the federal Safe Drinking Water Act, and regarding the long-term management of a public water system.

Furthermore, a mutual water company is prohibited from expanding its boundaries without approval from the appropriate local agency formation commission. LAFCOs are also now encouraged to expand the scope of the municipal service review process to consider local mutual water companies. AB54 in its entirety is available on the following website: <http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201120120AB54>.

AB 54 Provisions Directly Relating to LAFCO

1. Each mutual water company, except small companies with fewer than 15 customers, must submit their service area maps to LAFCO by December 31, 2012 (§ 14301.1a of the Corporations Code).
2. Each mutual water company must respond to information requests by LAFCO during preparation of municipal service reviews and sphere of influence update (§ 14301.1b of Corporations Code).
3. LAFCO is specifically authorized to annex a mutual’s service area to a city or special district, while maintaining the constitutional requirements of just compensation for the taking of any private property (§ 56375r of the Government Code).
4. When preparing or updating municipal service reviews and spheres of influence of cities and special districts that provide water service, LAFCO may report on whether nearby mutuals are complying with the Safe Drinking Water Act (§ 56430c of Government Code).

A6-3: PROFILES OF MUTUAL WATER COMPANIES IN STUDY AREA

Two mutual water companies operate in the eastern Nevada County area: Floriston Water System and Plavada Community Water System. Basic service information for each local mutual water company in alphabetical order is provided in the succeeding section.

Business Name	Website	Community
Floriston Water System	http://floristonca.com/	Floriston is an unincorporated small community located east of Truckee in Nevada County.
PlaVada Community Association Water System	http://www.plavada.com/	5000 PlaVada Dr. Soda Springs, CA

These two mutual water companies are described in more detail in the following paragraphs.

Floriston Mutual Benefit Corporation (non-profit)

Mailing Address: c/o Floriston Property Owners Association, 22261 Juniper Street, Floriston, CA 96111

Telephone: 775 -771-5611

Contact: Jerry Stinson:

E-mail: not available

Website: <http://floristonca.com/>

Number of Shareholders: Approximately 70 lots plus two remainder parcels were created under this subdivision. Several parcels remain vacant.

Water System Number: CA2900502

Corporation Number: C0222075

The water system for this community relies on a natural spring which routinely tests positive for total coliform and is inadequately treated. The California Natural Resources Agency is aware of the problem (CANRA, 2018). A bag filtration system was installed but it does not provide adequate treatment due to high sediment loading. The water system has been under a boil water order for several years. Floriston Property Owners Association, Inc. is working to plan and design improvements necessary to upgrade the existing source and treatment system such that water produced meets State and Federal drinking water standards (CANRA, 2018). The project has been funded by the California Natural Resources Agency under Reference Number: 3940P01D1602064 in the amount of \$442,906.00. The state has determined that Floriston is a disadvantaged community for purposes of the bond funding (CANRA, 2018). The TDPUD provided temporary emergency access to potable water for the community of Floriston, CA during the year 2016 (TDPUD response to Nevada LAFCo RFI, 2017). The access to potable water is a sale of water from TDPUD to the Floriston Homeowner's Association.

The sufficiency of water supply and water pressure to provide fire flows has not been assessed by LAFCO. Additional details about the community of Floriston is provided in Appendix 7.

PlaVada Woodlands Community Association - Water System

Mailing Address: PO Box 94, Norden, CA 95724

Alternative Address: 5000 PlaVada Dr. Soda Springs, CA

Telephone: 530-426-3980

Contact: Claudia Hatfield

E-mail: not available

Website: <http://www.plavada.com/>

Number of Shareholders: Approximately xx

Water System Number: CA2910011

Corporation Number: Not registered with the CA Secretary of State

The PlaVada Woodlands Community Association Water System serves approximately 145 permanent residents and 250 seasonal visitors. The community has three active wells located in a rural, forested setting consisting of mostly granite outcroppings. A Drinking Water Source Assessment was performed by the CA Department of Health Services in the spring of 2003. The

source is still vulnerable to home manufacturing, sewer collection systems, and chemical /petroleum storage. A complete assessment may be viewed at 5000 Pla Vada Drive, Soda Springs, Ca or SWRB Division of Drinking Water, Sacramento, Ca. The PlaVada Community Association was awarded \$648,000 in Proposition150 Grant Project funds for this project: PlaVada Community Association Arsenic Treatment Project at Two Well Sites. This indicates that the Association is actively managing its water resources. The Association has regularly scheduled board meetings for public participation on a monthly basis with meetings held at the Donner P.U.D.

The sufficiency of water supply and water pressure to provide fire flows has not been assessed by LAFCO.

A6-4: FORMER MUTUAL WATER COMPANIES

Over the past years, two mutual water companies have experienced difficulty providing affordable or efficient water services and have been acquired by TDPUD. To assist LAFCO in keeping track of these changes, Table A6-6 lists former mutual water companies.

Table A6-6: Former Mutual Water Companies	
<i>Name of Former Mutual Water Company</i>	<i>Status</i>
Del Oro Water Company (Donner Lake Water System)	Annexed by TDPUD in Summer 2001
Glenshire Mutual Water Company	Acquired by TDPUD in February 2001
Data Source: TDPUD 2015 UWMP Adopted June 1, 2016. Author Neil Kaufman, Engineer and Nevada LAFCO, 2005 MSR	

Additional Information on Mutual Water Companies

Many mutual water companies are members of the California Association of Mutual Water Companies and their website at: <http://calmutuals.org/> contains more information.

A6-3: FOR-PROFIT WATER UTILITY COMPANIES

Water companies which are owned by a single owner or by investors and which are structured as for-profit companies operate in the northern California region. They are not mutual water companies since mutual water companies are non-profit and are owned by all the property owners served. Therefore, these privately-owned water/utility companies are not subject to the new regulations enacted per Assembly Bill 54, Assembly Bill 656, Assembly Bill 240, and Assembly Bill 2443. The State Water Resources Control Board did not list any for-profit water utility companies in the eastern Nevada County area. However, the Donner Lake Water Company was previously acquired by the TDPUD.

A6-7: NEXT STEPS FOR LAFCO

Consistent with the legislative intent of AB 54, this report identifies and provides basic background information concerning existing mutual water companies operating in this MSR study region. It is recommended that LAFCO utilize the information contained herein to complete the following tasks:

- Contact each mutual water company.
- Request that each mutual water company provide LAFCO with a map of its service area (in-progress as of October 2015).
- Request additional information as deemed appropriate by LAFCO.
- Encourage each mutual water company to undergo board training required under AB54.
- Continue to study the compliance of mutual water companies with the Safe Drinking Water Act and issue a report of findings.
- Request a copy of each mutual water company's articles of incorporation and bylaws.
- Request a copy of each mutual water company's most recent consumer confidence and water quality reports.
- Make the above information available to the public via LAFCo's website.
- Establish formal lines of communication going forward.

Due to a lack of information, it is premature to make a determination at this time regarding compliance of each mutual water company with the Safe Drinking Water Act and therefore the recommendations listed above suggest continuing study to issue a subsequent report.

A6-8: REFERENCES

California Department of Public Health (CDPH). March 11, 2013. Public Water System No. 3110012 Compliance Order 0102-13R-001-3110012-22. Redding, Ca. 18 pages. Available on-line at: http://www.waterboards.ca.gov/drinking_water/programs/documents/ddwem/dwp%20enforcement%20actions/Placer/2013/01-02-13R-001-3110012-22.pdf. Accessed September 8, 2015.

California Public Utilities Commission (CPUC). March 26, 2015. Packet for Public Agenda #3354 San Francisco, California. 69-pages. Available on-line at: <https://ia.cpuc.ca.gov/agendadocs/3354.pdf>. Accessed 2September2015.

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Truckee Donner Public Utility District, Northstar Community Services District, and Placer County Water Agency. April, 2013. Martis Valley Groundwater Management Plan. Written by Brown and Caldwell Consultants and Balance Hydrologics, Inc. Consultants. 193 pages. Available on-line at: <https://www.tdpud.org/home/showdocument?id=7792>

Truckee River Watershed Council. April 2012. Martis Watershed Assessment for Placer and Nevada Counties, California. Authored by David Shaw and Brian Hastings (Balance Hydrologics, Inc.); Kevin Drake and Michael Hogan (Integrated Environmental Restoration Services); and Susan Lindström, Ph.D. (Consulting Archaeologist). 249-pages. Available on-line at: https://www.truckeeriverwc.org/images/documents/Martis_Watershed_Assessment_Final_041012_compressed.pdf

Appendix 7: Floriston

Floriston is an unincorporated small community located east of Truckee in Nevada County. The 2010 census estimated the population in the Floriston census-designated place at 73 persons. Floriston is located along the Truckee River, but does not appear to have water rights to that riparian source. LAFCO's April 2005 MSR for Eastern County Water Services did not contain any recommendations or determinations in regards to the community of Floriston.

The water system for this community relies on a natural spring which routinely tests positive for total coliform and is inadequately treated. The California Natural Resources Agency is aware of the problem (CANRA, 2018). Additionally, the Association has been coordinating with the Nevada County Environmental Health Department and the Lahontan Regional Water Quality Control Board on this issue. A bag filtration system was installed but it does not provide adequate treatment due to high sediment loading. The water system has been under a boil water order for several years. Floriston Property Owners Association, Inc. is working to plan and design improvements necessary to upgrade the existing source and treatment system such that water produced meets State and Federal drinking water standards (CANRA, 2018). The project has been funded by the California Natural Resources Agency under Reference Number: 3940P01D1602064 in the amount of \$442,906.00. The state has determined that Floriston is a disadvantaged community for purposes of the bond funding (CANRA, 2018). When providing water service, the Floriston Property Owners Association functions as a mutual water company as described in Appendix 6.

The 2016 Community Wildfire Protection Plan states that “The community with the greatest concern is Floriston, located on the eastern edge of the CWPP. The water tank, which supplies the community fire hydrants and drinking water supply is in need of replacement, the tank being too small to service the community. The Floriston water tank often runs out of water during the summer months. During the 2001 Martis Fire, the water tank could not supply the needs of the fire equipment providing structure protection. The water tank needs to be replaced with one larger and better able to supply the needs of the community” (TFPD, 2016). Floriston was annexed to the Truckee Fire Protection District (TFPD) in 2001.

In 2016, the Truckee Donner Public Utility District (TDPUD) provided temporary emergency access to potable water for the community of Floriston, CA (TDPUD, 2017b). The situation involved the sale of potable water from TDPUD to the Floriston Property Owners Association, to address a temporary emergency. The water sales involved the Floriston POA sending a licensed truck to TDPUD facilities to fill with water. The truck then transported the water back to Floriston for distribution.

The TDPUD has emphasized that this situation was temporary, that there was no contract between the Floriston Homeowners Association (HOA) and the District, and that the temporary

sale does not constitute the provision of ‘water service’ to the Floriston community. Thus, it appears that the requirements specified by Government Code Section 56133 (whereby a city or district may provide new or extended services by contract or agreement outside its jurisdictional boundary only if it first requests and receives written approval from the Commission) are not applicable to the situation.

However, although the water sale provided a temporary solution to Floriston’s potable water issues, the above comments from 2016 Community Wildfire Protection Plan indicate there may be fire safety issues relative to fire flow. The Floriston community may benefit from further discussions with both the TFPD and the TDPUD relative to ensuring a sustainable and adequate supply of water to address fire flow and reliability issues.

References

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- Nevada County Local Agency Formation Commission. April 2005. East County Water Services Municipal Services Review Prepared by: Pacific Municipal Consultants, Sacramento, CA. 108 pages. Available on-line at: <https://www.mynevadacounty.com/972/Municipal-Service-Reviews-MSR>.
- Truckee Fire Protection District (TFPD). 11-8-2016. Truckee Fire Protection District Community Wildfire Protection Plan Final. Prepared by: Wildland Rx and Deer Creek Resources. 108-pages. Available on-line at: https://static1.squarespace.com/static/5a8daffbbe42d684f619597e/t/5aa022a5652dea43a49fa6a1/1520444092705/Truckee_CWPP_11-16_compressed.34864047.pdf >.

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Appendix 8: California Water Service History

Nevada LAFCO's 2005 East County Water Service MSR provided background information about California's water service history as described in the following paragraphs.

To understand water service in the local and regional context, it is important to first have a basic understanding of California's complex system of water governance. The Hertzberg Commission's Growth Within Bounds includes this excellent discussion:

"...Initially, water was tamed by private companies for their own purposes. Mining companies ... built hundreds of miles of ditches, flumes, and canals to divert rivers to their hydraulic excavation sites. Ironically, the lasting contribution of these enormous engineering works was the cadre of professional engineers they brought to California and who were later freed to apply their new-found expertise to other water projects, such as irrigation canals, levees, and municipal water systems.

In Southern California, early water development was the province of mutual water companies, owned by the shareholder customers that they served. This form of service provider was very popular at the turn of the last century and remains a significant provider of water in many parts of California today. There are 426 mutual water companies still operating in California, with the bulk of them in Southern California (184 are located in five counties).

The water supply activities of mutual water companies are regulated only by the Department of Health Services, which oversees the State's public drinking water program. Until recently, they were not subject to any form of control by LAFCO. However, under 1997 amendments to the Corporations Code, mutual water companies formed after January 1998 must contact the Public Utilities Commission and the county LAFCO to determine if the proposed area will overlap an existing water service area or if an existing water service area could more appropriately serve the subdivision. Also, the company's source of water for distribution and fire protection systems must be sufficient to satisfy expected demands for water from the subdivision.

Even many of the early city water systems were privately owned. ... Despite misgivings about government ownership of complex systems, it soon became evident that the needs of urban growth would require a stable, publicly owned

supply of water and a significant investment in facilities. Early in the 20th Century, therefore, San Francisco obtained rights to Tuolumne River water and constructed a dam in the Hetch Hetchy Valley in Yosemite National Park. At about the same time, William Mulholland was acquiring water rights in the Owens Valley and laying plans for a massive system of aqueducts to ship the water to the City of Los Angeles.

In smaller communities, development of water systems under public ownership was made possible by the creation of special purpose districts. The earliest districts supervised land reclamation and levee maintenance in the 1860s. As agriculture developed, especially in the Central Valley, irrigation districts were organized under the Wright Act of 1887. The first of these, the Turlock Irrigation District, continues to deliver water and power to Valley residents today.

The State Legislature recognized the growing importance of municipal water supplies through enactment of the Municipal Water District Act of 1911 and the County Water District Law of 1913. The surge in municipal water district growth began in the 1950s and 1960s, spurred by rapid suburban growth and the enactment of new laws, most notably the Community Services District Law of 1951 that liberalized the powers and service options for many water districts. In all, the Legislature has enacted 39 general laws for establishing various categories of water utility districts and 116 special acts authorizing individual districts. The complexity of this legal scheme recognizes the critical importance of water development to California's communities and the need for many options to deal with it. On the other hand, it can lead to confusion and complicates reorganization procedures, thereby indirectly encouraging proliferation of water functions among various limited purpose districts and making consolidations less likely. It has also created a situation where the public finds it almost impossible to understand water governance.

A better understanding of water governance could be promoted if each LAFCo, as part of its studies of spheres of influence, periodic service reviews, and other governance issues, were to consider potential functional consolidations of districts providing water utility services, such as combining water and sanitary districts where feasible. The purpose should be not only to reduce costs, but, more importantly, to promote a more comprehensive approach to the use of water resources. Nevertheless, consolidations should not be initiated solely for the purpose of reducing the number of districts.

...The most visible component of California's water governance system to the average citizen, with the possible exception of the federal and state water projects, is the retail water supplier who mails the monthly bill. Most often, these retailers are counties, cities, or special districts. In some locales, however, they are mutual water cooperatives or private companies.

There are many other layers of water governance, however, that are less visible to the public and which handle the water both before and after it is delivered to consumers. These include agencies involved in wholesaling, recycling, and otherwise managing water supplies.

...Special districts have been established to serve numerous water related functions other than the delivery of drinking water. As previously mentioned, irrigation districts were established initially to divert water to farmers for crop use, although many today deliver more water for urban than for agricultural uses.

Sanitary and county sanitation districts and some reclamation districts treat wastewater and often recycle it for subsequent beneficial uses. Water storage and water conservation districts operate reservoirs, spreading basins, and similar facilities to preserve and expand water supplies. Two water replenishment districts recharge groundwater supplies by purchasing water and spreading it in holding basins where it seeps back into the ground. The largest of these, serving 43 cities in southern Los Angeles County, was sued by several member agencies which claimed that it had established unreasonably high rates, exceeded its legal authority, initiated unnecessary and duplicative projects, and provided campaign assistance to its board members. The critics implied that the district may no longer be necessary for its established purposes.

Another type of public institution has been established in "adjudicated" groundwater basins that are [sic] not officially counted as a government agency by the State Controller. In 16 groundwater basins, legal disputes have arisen over how much groundwater can rightfully be extracted by each landowner. These disputes have been resolved by the courts directing or approving a settlement and appointing a watermaster to oversee the judgment. The watermaster is answerable directly to the court, not to the Legislature, and is authorized to assess fees to cover the cost of his or her office. Courts have granted watermasters the authority to determine water allocations to each party and to regulate water quality."

The Hertzberg Commission recommended that water supply considerations be integrated into LAFCo evaluation of proposals. The Commission's recommendation subsequently became Section 56668(k), which requires LAFCo to consider, "Timely availability of water supplies adequate for projected needs..."

Reference

Nevada County Local Agency Formation Commission. April 2005. East County Water Services Municipal Services Review Prepared by: Pacific Municipal Consultants, Sacramento, CA. 108 pages. Available on-line at:< <https://www.mynevadacounty.com/972/Municipal-Service-Reviews-MSR>>.

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**Appendix 9: Regulatory Requirements -
Municipal Water**

APPENDIX 9

REGULATORY REQUIREMENTS

MUNICIPAL WATER

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Rules Governing Groundwater

The California Water Code indicates groundwater law applies to underground water not flowing in known and definite channels. Whereas “surface waters, and subterranean streams flowing through known and definite channels” (Water Code § 1200.) are legally classified as surface water. Groundwater is subject to California’s constitutional requirement that all water used be put to reasonable and beneficial use. There are two types of groundwater rights in California: overlying rights and appropriative rights. Overlying rights are similar to riparian rights with surface water. Appropriative groundwater rights are similar to a surface water appropriative right (Burch, 2005).

Overlying Rights for Groundwater

In California, property overlying a groundwater basin has entitlements to the percolating groundwater of the basin beneath the lands for reasonable beneficial uses on the overlying land. This entitlement is equal and correlative with respect to other property owners within the same groundwater basin exercising their respective rights; that is, each property owner is entitled to a reasonable share of the available groundwater. (*Katz v. Walkinshaw* (1903) 141 Cal. 116.) As a result, one property owners’ rights do not have priority over any other property owner, regardless of when the rights are exercised. The quantity attributed to the water entitlement is a function of the number of parties rightfully producing the available

water (Burch, 2005).

Although overlying property owners can extract as much groundwater as is reasonably needed for use on overlying land; during times with reduced groundwater supply, each overlying property owner must reduce extractions proportionately (*Wright v. Goleta Water District* (1985) 174 Cal.App.3d 74,84.). Overlying groundwater rights are generally superior to appropriative rights. (*City of Pasadena v. City of Alhambra* (1949) 33 Cal.2d 908, 926. See Hutchins, *The California Law of Water Rights* (1956) p. 441 *et seq.*)

Appropriative Right to Groundwater

If there is surplus groundwater, it may be appropriated for use on non-overlying land. An appropriative right to groundwater is a right to use groundwater outside of the groundwater basin or for public service in communities overlying the basin, as long as enough water is left to meet all overlying landowner needs. (*Tehachapi-Cummings County Water Dist. v. Armstrong* (1975) 49 Cal.App.3d 992, 1000 n.6, 1001.) There are three basic types of groundwater appropriators:

1. strangers to the groundwater basin (who do not own or use groundwater on overlying lands) who act to appropriate available groundwater;
2. overlyers who use all or a portion of their groundwater on lands that do not overlie the groundwater basin; or
3. an overlying municipality that extracts available groundwater for municipal purposes (Burch, 2005).

The TDPUD studied within this MSR is an overlying municipality that extracts available groundwater for municipal purposes.

Overlyers have priority above appropriators and priority follows the rule of “first in time, first in right.” (*City of Pasadena v. City of Alhambra, supra*, 33 Cal.2d at p. 926.) Earlier appropriative users have priority over later appropriative users. If a groundwater basin is overdraft, such that groundwater use exceeds the amount of recharge into an aquifer, no appropriative rights can be acquired, except by prescription. (*City of Pasadena v. City of Alhambra, supra*, 33 Cal.2d at pp. 926-27; *City of Los Angeles v. City of San Fernando, supra*, 14 Cal.3d at p. 278.)

Sustainable Groundwater Management Act (SGMA)

Effective in 2015, the Sustainable Groundwater Management Act (SGMA) codified Assembly Bill No. 1739 and Senate Bill Nos. 1168 and 1319 which require local regions to create a groundwater sustainability agency (GSA) and to adopt groundwater management plans. Under the SGMA, DWR designated groundwater basins in the State as high, medium, low or very low priority for purposes of groundwater management. In 2017 the Martis Valley Groundwater Basin (MVGB) was classified as medium priority by DWR. This Act requires local regions to create a GSA and to adopt groundwater management plans for groundwater basins or subbasins that are designated as medium or high priority. Later, in 2019, DWR re-classified the MVGB as very low priority. Therefore, the planning document (Alternative Submittal) was not required by DWR

and was withdrawn by TDPUD and its partner agencies.

Local Groundwater Rules

Permits for Wells: The Nevada County Environmental Health Department requires a permit prior to the installation of a well. This permit process is intended to ensure the protection of the natural resource from a health and safety perspective.

Other Groundwater Rules

Adjudicated Basins: In some areas of California, groundwater basins are managed pursuant to rules established in an adjudication of groundwater rights. An adjudication is a court proceeding which establishes the relative rights of all parties claiming an interest in the water source. In these equitable proceedings the court usually maintains continuing jurisdiction, supervising, through a special master or watermaster, the use of water from the adjudication basins (Burch, 2005). The Martis Valley Groundwater Basin is not adjudicated.

Water Quality Regulation: As is the case with surface water, various federal statutes control the use of water from groundwater basins. These statutes deal primarily with the discharge of pollutants, but may also regulate the pumping of groundwater (Burch, 2005).

Springs: When the flow of a spring naturally becomes part of the flow of a stream system which extends beyond the property on which the spring arises, rights to use are obtained as either riparian or appropriative surface water rights. When the flow does not naturally leave the land upon which it arises, the flow is exclusively owned by the owner of the land and can be used on that land for reasonable, beneficial purposes (Burch, 2005).

Surface Water Rules

Federal Regulations

U.S. Clean Water Act (1972)

The Clean Water Act (CWA) is the primary federal statute governing the protection of water quality. The EPA's implementation of this law provides a comprehensive program to protect the nation's surface waters. Under CWA Section 304, states are required to ensure that potable water retailed to the public meets specific standards.

Section 303(d) of the CWA requires states to identify water bodies that do not meet water quality objectives and that do not support beneficial uses. The 303(d) list includes the Truckee River for sediment.

U.S. Safe Drinking Water Act (1974)

Under the Safe Drinking Water Act (SDWA, 42 USC Sections 300f et seq.), U.S. EPA regulates contaminants of concern to domestic water supply. Contaminants of concern relevant to domestic water supply are defined as those that pose a public health threat or that alter the

aesthetic acceptability of the water. The California Department of Public Health (CDPH) has been granted primary enforcement responsibility for the SDWA. Title 22 of the California Administrative Code establishes CDPH authority, and stipulates drinking water quality and monitoring standards.

State Regulations

California Water Code

The California Water Code outlines the general state authority and responsibilities over water in California. Most of the state regulations described below are codified into the California Water Code. The entire Water Code is available on-line at: <http://leginfo.legislature.ca.gov/faces/codes.xhtml>. Other state codes applicable to drinking water include the Corporations Code, Education Code, Food and Agricultural Code, Government Code, Health and Safety Code, and the Public Resources Code.

California Porter-Cologne Water Quality Control Act (1969)

The Porter-Cologne Act provides the statutory authority for the protection of water quality in California. Consistent with the Porter-Cologne Act, the state adopts water quality policies, plans, and objectives to protect the state's waters. The Act outlines the obligations of the SWRCB and nine RWQCBs to adopt and periodically update basin plans.

Water Quality Control Plan

The State Water Resources Control Board and nine RWQCBs are responsible for ensuring implementation and compliance with the provisions of the CWA and the Porter-Cologne Act. In the Truckee area, the *Lahontan Region Basin Plan* sets forth water quality standards for the surface and ground waters. Additionally, groundwater recharge is identified as a beneficial use in the Basin Plan.

Urban Water Management Planning Act (1983)

The Urban Water Management Planning Act (California Water Code, Division 6, Part 2.6, Section 10610 et seq.) requires water suppliers to document water supplies available during normal, single dry, and multiple dry water years during a 20-year projection period, and to document the existing and projected future water demand during a 20-year projection period. The Act applies to municipal water suppliers that serve more than 3,000 customers or provides more than 3,000 afy of water.

Senate Bill 610 and Senate Bill 221

SB 610 (now CEQA Guidelines Section 15155) amended the Water Code requirements within the CEQA process and broadened the types of information required in a UWMP. SB 221 is applicable within the Subdivision Map Act and it allows jurisdictions to condition a tentative map such that documentation from a public water supplier regarding availability of sufficient water supply is needed.

Water Efficiency Legislation

California's Water Code contains the Water Efficiency Legislation which aims to make California more resilient to impacts of future droughts. The legislation was approved SB 606 (Hertzberg) and AB 1668 (Friedman) and it emphasizes *efficiency and stretching existing water supplies* in cities and farms. Efficient water use is the most cost-effective way to achieve long term conservation goals, as well provide the water supply reliability needed to adapt to the longer and more intense droughts climate change is causing in California. Specifically, the laws call for creation of new urban efficiency standards for indoor use, outdoor use, and water lost to leaks, as well as any appropriate variances for unique local conditions. The State Water Board will adopt these standards by regulation no later than June 30, 2022, after full and robust public and stakeholder processes. Each urban retail water agency will annually, beginning November 2023, calculate its own objective, based on the water needed in its service area for efficient indoor residential water use, outdoor residential water use, commercial, industrial and institutional (CII) irrigation with dedicated meters, and reasonable amounts of system water loss, along with consideration of other unique local uses (i.e., variances) and "bonus incentive," or credit, for potable water reuse, using the standards adopted by the Board. (DWR, 2018)

Integrated Regional Water Management – Planning Act of 2002

Integrated regional water management (IRWM) was officially established by the State of California in 2002 through the passage of the Integrated Regional Water Management Planning Act (SB 1672). Special districts, such as water agencies, are typically separate entities with clearly defined service areas within which they have exclusive authority to provide services. However, many water agencies receive water supplies from a source that is shared with other water agencies. Projects and plans developed by one water agency may conflict with projects or plans of another agency that shares the same source of water. IRWM provides a mechanism for regional planning to reduce potential conflicts. Additionally, IRWM supports collaborative prioritization of water-related efforts in the region in a systematic way to ensure sustainable water uses, reliable water supplies, better water quality, environmental stewardship, efficient urban development, and the protection of agriculture. Various bond acts approved by California voters have provided over \$1.5 billion in State funding to support and advance integrated, multi-benefit regional projects. Cities, counties, water districts, community/environmental groups, Tribes and others across the State have worked collaboratively to organize and establish 48 regional water management groups, covering over 87 percent of the State's area and 99 percent of its population. Over the years, numerous IRWM planning grants have helped RWMGs develop, adopt and update IRWM plans to identify strategies and projects to address the unique needs and conditions of their regions. Detailed information about IRWM is available from DWR at: <https://water.ca.gov/Programs/Integrated-Regional-Water-Management>.

Recycled Water Regulations

Recycled water is regulated by the U.S. Environmental Protection Agency (EPA), the State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards (RWQCB), and the CA Department of Health Services (DHS). Resolution No. 77-1 from the SWRCB, allows the

SWRCB and RWQCB to encourage and consider funding of water reclamation projects that do not impair water rights or beneficial instream uses.

Title 22

Title 22 of California's Water Recycling Criteria was authored in 1975 as California's guidelines on the discharged and use of treated and recycled water. The standards require the California Department of Health Services to develop and enforce water and bacteriological treatment standards for water recycling and reuse. State discharge standards for reclaimed water and its reuse are regulated by under the Water Recycling Criteria and the 1969 Porter-Cologne Water Quality Control Act.

California Water Code (Division 3, Dams and Reservoirs)

The State of California inspects dams to prevent failure in order to safeguard life and protect property. DWR Division of Safety of Dams implements this legislation.

Local Regulations

Nevada County has several policies related to water quality including its General Plan. The County Environmental Health Department also aims to ensure drinking water is safe. The Truckee General Plan also contains several policies related to public services and health of the natural environment.

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Burch, Marsha A. Law Office. 2005. Presentation to CALAFCo Annual Conference entitled "WATER RIGHTS: Supply Issues for Local Agency Formation Commissions". 18-pages. Available on-line at: <<https://calafco.org/resources/lafco-procedures-special-districts/water-management>>.

California Department of Water Resources (DWR). 2018. Fact Sheet on Water Efficiency Legislation. 3-pages. Available on-line at: https://www.waterboards.ca.gov/publications.../water_efficiency_bill_factsheet.pdf.

Appendix 10:

USGS - Groundwater Quality in the Tahoe and Martis Basins

U.S. Geological Survey and the California State Water Resources Control Board

Groundwater Quality in the Tahoe and Martis Basins, California

Groundwater provides more than 40 percent of California's drinking water. To protect this vital resource, the State of California created the Groundwater Ambient Monitoring and Assessment (GAMA) Program. The Priority Basin Project of the GAMA Program provides a comprehensive assessment of the State's groundwater quality and increases public access to groundwater-quality information. The Tahoe and Martis Basins and surrounding watersheds constitute one of the study units being evaluated.



The Tahoe-Martis Study Unit

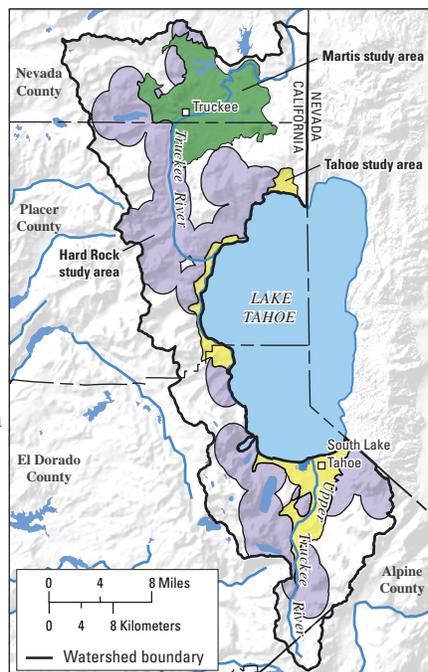
The Tahoe-Martis study unit is approximately 460 square miles and includes the groundwater basins on the south, north, and west shores of Lake Tahoe, and the Martis Valley groundwater basin (California Department of Water Resources, 2003). The study unit was divided into three study areas based primarily on geography: the Tahoe study area composed of the three Tahoe Valley basins, the Martis study area, and the Hard Rock study area composed of the parts of the watersheds surrounding the basins (Fram and others, 2009).

The primary aquifers in the Tahoe study area consist of glacial outwash sediments (mixtures of sand, silt, clay, gravel, cobbles, and boulders), interbedded with lake sediments. The primary aquifers in the Martis study area are interbedded volcanic lavas, volcanic sediments, and glacial outwash sediments. In the Hard Rock study area, groundwater is present in fractured granitic rocks in the south and fractured volcanic rocks in the north. Aquifers composed of different materials commonly contain groundwater with different chemical compositions.

The primary aquifers in the study unit are defined as those parts of the aquifers corresponding to the screened or open intervals of wells listed in the California Department of Public Health database. In the Tahoe study area, these wells typically are drilled to depths between 175 and 375 feet, consist of solid casing from land surface to a depth of about 75 to 125 feet, and are screened or open below the solid casing. In the Martis study area, these wells typically are 200 to 900 feet deep, and are screened or open below 75 to 300 feet. Water quality in the shallower and deeper parts of the aquifer system may differ from that in the primary aquifers. The Hard Rock study area includes wells and developed springs.

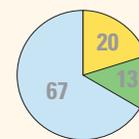
The Tahoe-Martis study unit has warm, dry summers and cold, wet winters. Average annual precipitation ranges from 30 inches at Lake Tahoe to 80 inches in the surrounding mountains, and the majority of precipitation falls as snow. Land use in the study unit is approximately 88 percent (%) undeveloped (forests, grasslands, and bare rock), and 12% urban. The undeveloped lands are used mostly for recreation. The largest urban areas are the cities of South Lake Tahoe and Truckee.

Municipal and community water supply accounts for nearly all of the total water use in the study unit, with most of the remainder used for recreation, including landscape irrigation and snow-making. Groundwater provides nearly all of the water supply in the study unit, with limited use of surface water in some areas. Recharge to the groundwater flow system is mainly from mountain-front recharge at the margins of the basins, stream-channel infiltration, and direct infiltration of precipitation. Groundwater leaves the aquifer system when it is pumped for water supply or flows into streams and lakes.

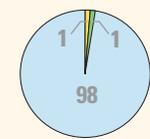


Overview of Water Quality

Inorganic constituents



Organic constituents



CONSTITUENT CONCENTRATIONS

● High ● Moderate ● Low or not detected

Values are a percentage of the area of the primary aquifers with concentrations in the three specified categories. Values on pie chart may not equal 100 due to rounding of percentages.

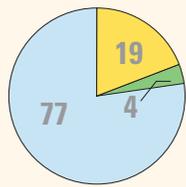
GAMA's Priority Basin Project evaluates the quality of untreated groundwater. However, for context, benchmarks established for drinking-water quality are used for comparison. Benchmarks and definitions of *high*, *moderate*, and *low* concentrations are discussed in the inset box on page 3.

Many inorganic constituents occur naturally in groundwater. The concentrations of the inorganic constituents can be affected by natural processes as well as by human activities. In the Tahoe-Martis study unit, one or more inorganic constituents were present at high concentrations in about 20% of the primary aquifers and at moderate concentrations in 13%.

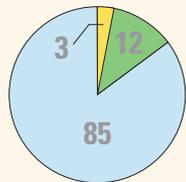
Human-made organic constituents are found in products used in the home, business, industry, and agriculture. Organic constituents can enter the environment through normal usage, spills, or improper disposal. In this study unit, one or more organic constituents were present at high concentrations in about 1% of the primary aquifers and at moderate concentrations in about 1%.

RESULTS: Groundwater Quality in the Tahoe-Martis Study Unit

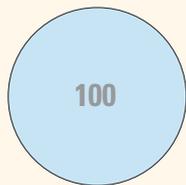
INORGANIC CONSTITUENTS



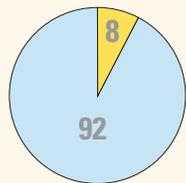
Trace elements



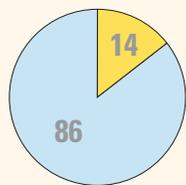
Radioactive constituents



Nutrients

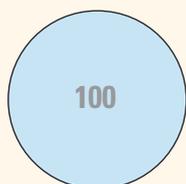


Total dissolved solids



Manganese

SPECIAL-INTEREST CONSTITUENTS



Perchlorate

Inorganic Constituents with Human-Health Benchmarks

Trace and minor elements are naturally present in the minerals in rocks and soils, and in the water that comes into contact with those materials. In the Tahoe-Martis study unit, trace elements were present at high concentrations in about 19% of the primary aquifers, and in moderate concentrations in about 4%. Arsenic was the trace element that most frequently occurred at high and moderate concentrations. Three trace elements with non-regulatory health-based benchmarks, boron, molybdenum, and strontium, also were detected at high concentrations.

Radioactivity is the emission of energy or particles during spontaneous decay of unstable atoms. Humans are exposed to small amounts of natural radioactivity every day. Most of the radioactivity in groundwater comes from decay of naturally occurring uranium and thorium in minerals in the rocks or sediments of the aquifers. Radioactive constituents occurred at high levels in about 3% of the primary aquifers, and at moderate levels in about 12%. Gross alpha particle and radon-222 activities were the radioactive constituents that most frequently occurred at high and moderate levels.

Nutrients, such as nitrogen, are naturally present at low concentrations in groundwater. High and moderate concentrations generally occur as a result of human activities. Common sources of nutrients include fertilizer applied to crops and landscaping, seepage from septic systems, and human and animal waste. In the Tahoe-Martis study unit, nutrients were not detected at high or moderate concentrations in the primary aquifers.

Inorganic Constituents with Non-Health Benchmarks

(Not included in water-quality overview charts shown on the front page)

Some constituents affect the aesthetic properties of water, such as taste, color, and odor, or may create nuisance problems, such as staining and scaling. The State of California has a recommended and an upper limit for total dissolved solids (TDS). All water naturally contains TDS as a result of the weathering and dissolution of minerals in soils and rocks. Iron and manganese are naturally occurring constituents that commonly occur together in groundwater. Anoxic conditions in groundwater (low amounts of dissolved oxygen) may result in release of manganese and iron from minerals into groundwater.

In the Tahoe-Martis study unit, TDS was present at high concentrations (greater than the upper limit) in about 8% of the primary aquifers, and at low concentrations (less than the recommended limit) in about 92% of the primary aquifers. Manganese, with or without iron, was present at high concentrations in about 14% of the primary aquifers.

Perchlorate

(Not included in water-quality overview charts shown on the front page)

Perchlorate is an inorganic constituent that has been regulated in California drinking water since 2007. It is an ingredient in rocket fuel, fireworks, safety flares, and other products, may be present in some fertilizers, and occurs naturally at low concentrations in groundwater. Perchlorate was not detected in the primary aquifers.

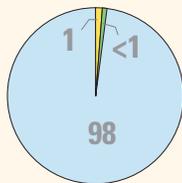
RESULTS: Groundwater Quality in the Tahoe-Martis Study Unit

ORGANIC CONSTITUENTS

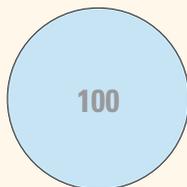
Organic Constituents

The Priority Basin Project uses laboratory methods that can detect the presence of low concentrations of volatile organic compounds (VOCs) and pesticides, far below human-health benchmarks. VOCs and pesticides detected at these low concentrations can be used to help trace water from the landscape into the aquifer system.

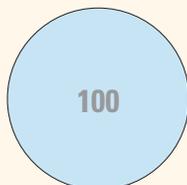
Solvents



Other volatile organic compounds



Pesticides



Volatile Organic Compounds with Human-Health Benchmarks

VOCs are in many household, commercial, industrial, and agricultural products, and are characterized by their tendency to volatilize (evaporate) into the air.

Solvents are used for a number of purposes, including manufacturing and cleaning. In the Tahoe-Martis study unit, solvents were present at high concentrations in about 1% of the primary aquifers. The solvent detected at high concentrations was tetrachloroethylene (PCE), which mainly was used in dry-cleaning businesses. Solvents were present at moderate concentrations in about 1% of the primary aquifers, and at low concentrations (or not detected) in about 98%.

Other VOCs include trihalomethanes, gasoline additives and oxygenates, refrigerants, and organic synthesis reagents. Trihalomethanes form during disinfection of water supplies, and may enter groundwater by the infiltration of landscape irrigation water, or leakage from distribution lines. Gasoline additives and oxygenates increase the efficiency of fuel combustion. Other VOCs were not detected at high or moderate concentrations in the primary aquifers. Trihalomethanes and gasoline oxygenates were detected at low concentrations in the primary aquifers.

Pesticides with Human-Health Benchmarks

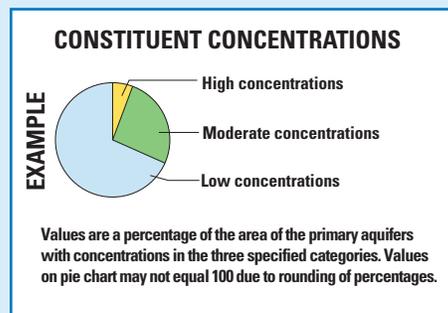
Pesticides, including herbicides, insecticides, fungicides, and fumigants, are applied to crops, gardens, lawns, around buildings, and along roads to help control unwanted vegetation (weeds), insects, fungi, and other pests. In the Tahoe-Martis study unit, pesticides were not detected at high or moderate concentrations in the primary aquifers. Herbicides were occasionally detected at low concentrations.

BENCHMARKS FOR EVALUATING GROUNDWATER QUALITY

GAMA's Priority Basin Project uses benchmarks established for drinking water to provide context for evaluating the quality of untreated groundwater. After withdrawal, groundwater may be disinfected, filtered, mixed, and exposed to the atmosphere before being delivered to consumers. Federal and California regulatory benchmarks for protecting human health (Maximum Contaminant Level, MCL) were used when available. Nonregulatory benchmarks for protecting aesthetic properties, such as taste and odor (Secondary Maximum Contaminant Level, SMCL), and nonregulatory benchmarks for protecting human health (Notification Level, NL, and Lifetime Health Advisory, HAL) were used when Federal or California regulatory benchmarks were not available.

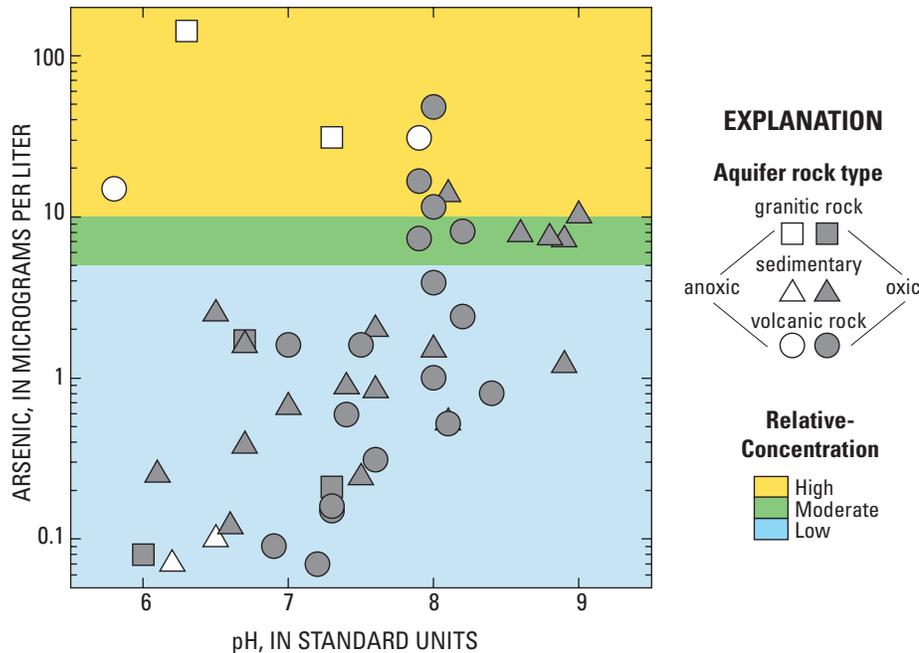
High, moderate, and low concentrations are defined relative to benchmarks

Concentrations are considered *high* if they are greater than a benchmark. For inorganic constituents, concentrations are *moderate* if they are greater than one-half of a benchmark. For organic constituents and perchlorate, concentrations are *moderate* if they are greater than one-tenth of a benchmark; this lower threshold was used because organic constituents are generally less prevalent and have smaller concentrations relative to benchmarks than inorganic constituents. *Low* values include nondetections and values less than moderate concentrations. Methods for evaluating water quality are discussed in Fram and Belitz (2012).



Factors that Affect Groundwater Quality

In the Tahoe-Martis study unit, arsenic was the constituent that most frequently occurred at high concentrations. About 18% of the primary aquifers had arsenic concentrations greater than the human-health regulatory benchmark Federal MCL) of 10 µg/L (micrograms per liter). Natural sources of arsenic to groundwater include dissolution of arsenic-bearing sulfide minerals, desorption of arsenic from the surfaces of manganese- or iron-oxide minerals (or dissolution of those oxide minerals), and mixing with geothermal waters (Welch and others, 2000).



In the Tahoe-Martis study unit, elevated arsenic concentrations likely are caused by two different processes (Fram and Belitz, 2012). In aquifers composed of sediments or volcanic rocks, high and moderate arsenic concentrations were found in groundwater that was oxic (high dissolved oxygen concentration) and alkaline (pH values greater than about 8). The elevated arsenic concentration in oxic, alkaline groundwater likely is due to desorption of arsenic from the surfaces of manganese- and iron-oxide minerals (Smedley and Kinniburgh, 2002). Oxic, alkaline conditions increase arsenic solubility in groundwater by inhibiting arsenic from adhering to mineral surfaces (sorption). In aquifers composed of granitic and volcanic rocks, high arsenic concentrations also were found in anoxic (low dissolved oxygen concentration) groundwater with low pH values. Dissolution of manganese- and iron-oxide minerals under anoxic conditions likely results in release of arsenic associated with these minerals.

By Miranda S. Fram and Kenneth Belitz

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Priority Basin Assessments

GAMA's Priority Basin Project (PBP) assesses water quality in that part of the aquifer system used for drinking water, primarily public supply. Water quality in the primary aquifers, assessed by the PBP, may differ from that in the deeper parts of the aquifer, or from the shallower parts, which are being assessed by GAMA's Domestic Well Project. Ongoing assessments are being conducted in more than 120 basins throughout California.

The PBP assessments are based on a comparison of constituent concentrations in untreated groundwater with benchmarks established for protection of human health and for aesthetic concerns. The PBP does not evaluate the quality of drinking water delivered to consumers.

The PBP uses two scientific approaches for assessing groundwater quality. The first approach uses a network of wells to statistically assess the status of groundwater quality. The second approach combines water-quality, hydrologic, geographic, and other data to help assess the factors that affect water quality. In the Tahoe-Martis study unit, data were collected by the PBP in 2007, and from the CDPH database for 2004–2007. The PBP includes chemical analyses generally not available as part of regulatory compliance monitoring, including measurements at concentrations much lower than human-health benchmarks, and measurement of constituents that can be used to trace the sources and movement of groundwater.

For more information

Technical reports and hydrologic data collected for the GAMA PBP Program may be obtained from:

GAMA Project Chief

U.S. Geological Survey
California Water Science Center
4165 Spruance Road, Suite 200
San Diego, CA 92101
Telephone number: (619) 225-6100
[WEB: http://ca.water.usgs.gov/gama](http://ca.water.usgs.gov/gama)

GAMA Program Unit

State Water Resources Control Board
Division of Water Quality
PO Box 2231, Sacramento, CA 95812
Telephone number: (916) 341-5779
[WEB: http://www.waterboards.ca.gov/gama](http://www.waterboards.ca.gov/gama)

Appendix 11:

EPA - National Primary Drinking Water Regulations

National Primary Drinking Water Regulations



Contaminant	MCL or TT ¹ (mg/L) ²	Potential health effects from long-term ³ exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal (mg/L) ²
 Acrylamide	TT ⁴	Nervous system or blood problems; increased risk of cancer	Added to water during sewage/wastewater treatment	zero
 Alachlor	0.002	Eye, liver, kidney, or spleen problems; anemia; increased risk of cancer	Runoff from herbicide used on row crops	zero
 Alpha/photon emitters	15 picocuries per Liter (pCi/L)	Increased risk of cancer	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation	zero
 Antimony	0.006	Increase in blood cholesterol; decrease in blood sugar	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder	0.006
 Arsenic	0.010	Skin damage or problems with circulatory systems, and may have increased risk of getting cancer	Erosion of natural deposits; runoff from orchards; runoff from glass & electronics production wastes	0
 Asbestos (fibers >10 micrometers)	7 million fibers per Liter (MFL)	Increased risk of developing benign intestinal polyps	Decay of asbestos cement in water mains; erosion of natural deposits	7 MFL
 Atrazine	0.003	Cardiovascular system or reproductive problems	Runoff from herbicide used on row crops	0.003
 Barium	2	Increase in blood pressure	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	2
 Benzene	0.005	Anemia; decrease in blood platelets; increased risk of cancer	Discharge from factories; leaching from gas storage tanks and landfills	zero
 Benzo(a)pyrene (PAHs)	0.0002	Reproductive difficulties; increased risk of cancer	Leaching from linings of water storage tanks and distribution lines	zero
 Beryllium	0.004	Intestinal lesions	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries	0.004
 Beta photon emitters	4 millirems per year	Increased risk of cancer	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation	zero
 Bromate	0.010	Increased risk of cancer	Byproduct of drinking water disinfection	zero
 Cadmium	0.005	Kidney damage	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints	0.005
 Carbofuran	0.04	Problems with blood, nervous system, or reproductive system	Leaching of soil fumigant used on rice and alfalfa	0.04

LEGEND



Contaminant	MCL or TT ¹ (mg/L) ²	Potential health effects from long-term ³ exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal (mg/L) ²
 Carbon tetrachloride	0.005	Liver problems; increased risk of cancer	Discharge from chemical plants and other industrial activities	zero
 Chloramines (as Cl ₂)	MRDL=4.0 ¹	Eye/nose irritation; stomach discomfort; anemia	Water additive used to control microbes	MRDLG=4¹
 Chlordane	0.002	Liver or nervous system problems; increased risk of cancer	Residue of banned termiticide	zero
 Chlorine (as Cl ₂)	MRDL=4.0 ¹	Eye/nose irritation; stomach discomfort	Water additive used to control microbes	MRDLG=4¹
 Chlorine dioxide (as ClO ₂)	MRDL=0.8 ¹	Anemia; infants, young children, and fetuses of pregnant women: nervous system effects	Water additive used to control microbes	MRDLG=0.8¹
 Chlorite	1.0	Anemia; infants, young children, and fetuses of pregnant women: nervous system effects	Byproduct of drinking water disinfection	0.8
 Chlorobenzene	0.1	Liver or kidney problems	Discharge from chemical and agricultural chemical factories	0.1
 Chromium (total)	0.1	Allergic dermatitis	Discharge from steel and pulp mills; erosion of natural deposits	0.1
 Copper	TT ⁵ ; Action Level=1.3	Short-term exposure: Gastrointestinal distress. Long-term exposure: Liver or kidney damage. People with Wilson's Disease should consult their personal doctor if the amount of copper in their water exceeds the action level	Corrosion of household plumbing systems; erosion of natural deposits	1.3
 <i>Cryptosporidium</i>	TT ⁷	Short-term exposure: Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste	zero
 Cyanide (as free cyanide)	0.2	Nerve damage or thyroid problems	Discharge from steel/metal factories; discharge from plastic and fertilizer factories	0.2
 2,4-D	0.07	Kidney, liver, or adrenal gland problems	Runoff from herbicide used on row crops	0.07
 Dalapon	0.2	Minor kidney changes	Runoff from herbicide used on rights of way	0.2
 1,2-Dibromo-3-chloropropane (DBCP)	0.0002	Reproductive difficulties; increased risk of cancer	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards	zero
 o-Dichlorobenzene	0.6	Liver, kidney, or circulatory system problems	Discharge from industrial chemical factories	0.6
 p-Dichlorobenzene	0.075	Anemia; liver, kidney, or spleen damage; changes in blood	Discharge from industrial chemical factories	0.075
 1,2-Dichloroethane	0.005	Increased risk of cancer	Discharge from industrial chemical factories	zero

LEGEND



DISINFECTANT

DISINFECTION
BYPRODUCTINORGANIC
CHEMICAL

MICROORGANISM

ORGANIC
CHEMICAL

RADIONUCLIDES

Contaminant	MCL or TT ¹ (mg/L) ²	Potential health effects from long-term ³ exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal (mg/L) ²
 1,1-Dichloroethylene	0.007	Liver problems	Discharge from industrial chemical factories	0.007
 cis-1,2-Dichloroethylene	0.07	Liver problems	Discharge from industrial chemical factories	0.07
 trans-1,2-Dichloroethylene	0.1	Liver problems	Discharge from industrial chemical factories	0.1
 Dichloromethane	0.005	Liver problems; increased risk of cancer	Discharge from industrial chemical factories	zero
 1,2-Dichloropropane	0.005	Increased risk of cancer	Discharge from industrial chemical factories	zero
 Di(2-ethylhexyl) adipate	0.4	Weight loss, liver problems, or possible reproductive difficulties	Discharge from chemical factories	0.4
 Di(2-ethylhexyl) phthalate	0.006	Reproductive difficulties; liver problems; increased risk of cancer	Discharge from rubber and chemical factories	zero
 Dinoseb	0.007	Reproductive difficulties	Runoff from herbicide used on soybeans and vegetables	0.007
 Dioxin (2,3,7,8-TCDD)	0.00000003	Reproductive difficulties; increased risk of cancer	Emissions from waste incineration and other combustion; discharge from chemical factories	zero
 Diquat	0.02	Cataracts	Runoff from herbicide use	0.02
 Endothall	0.1	Stomach and intestinal problems	Runoff from herbicide use	0.1
 Endrin	0.002	Liver problems	Residue of banned insecticide	0.002
 Epichlorohydrin	TT ⁴	Increased cancer risk; stomach problems	Discharge from industrial chemical factories; an impurity of some water treatment chemicals	zero
 Ethylbenzene	0.7	Liver or kidney problems	Discharge from petroleum refineries	0.7
 Ethylene dibromide	0.00005	Problems with liver, stomach, reproductive system, or kidneys; increased risk of cancer	Discharge from petroleum refineries	zero
 Fecal coliform and <i>E. coli</i>	MCL ⁶	Fecal coliforms and <i>E. coli</i> are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes may cause short term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.	Human and animal fecal waste	zero⁶

LEGEND



DISINFECTANT

DISINFECTION
BYPRODUCTINORGANIC
CHEMICAL

MICROORGANISM

ORGANIC
CHEMICAL

RADIONUCLIDES

Contaminant	MCL or TT ¹ (mg/L) ²	Potential health effects from long-term ³ exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal (mg/L) ²
 Fluoride	4.0	Bone disease (pain and tenderness of the bones); children may get mottled teeth	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories	4.0
 <i>Giardia lamblia</i>	TT ⁷	Short-term exposure: Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste	zero
 Glyphosate	0.7	Kidney problems; reproductive difficulties	Runoff from herbicide use	0.7
 Haloacetic acids (HAA5)	0.060	Increased risk of cancer	Byproduct of drinking water disinfection	n/a⁹
 Heptachlor	0.0004	Liver damage; increased risk of cancer	Residue of banned termiticide	zero
 Heptachlor epoxide	0.0002	Liver damage; increased risk of cancer	Breakdown of heptachlor	zero
 Heterotrophic plate count (HPC)	TT ⁷	HPC has no health effects; it is an analytic method used to measure the variety of bacteria that are common in water. The lower the concentration of bacteria in drinking water, the better maintained the water system is.	HPC measures a range of bacteria that are naturally present in the environment	n/a
 Hexachlorobenzene	0.001	Liver or kidney problems; reproductive difficulties; increased risk of cancer	Discharge from metal refineries and agricultural chemical factories	zero
 Hexachloro-cyclopentadiene	0.05	Kidney or stomach problems	Discharge from chemical factories	0.05
 Lead	TT ⁵ ; Action Level=0.015	Infants and children: Delays in physical or mental development; children could show slight deficits in attention span and learning abilities; Adults: Kidney problems; high blood pressure	Corrosion of household plumbing systems; erosion of natural deposits	zero
 <i>Legionella</i>	TT ⁷	Legionnaire's Disease, a type of pneumonia	Found naturally in water; multiplies in heating systems	zero
 Lindane	0.0002	Liver or kidney problems	Runoff/leaching from insecticide used on cattle, lumber, and gardens	0.0002
 Mercury (inorganic)	0.002	Kidney damage	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and croplands	0.002
 Methoxychlor	0.04	Reproductive difficulties	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, and livestock	0.04
 Nitrate (measured as Nitrogen)	10	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	10

LEGEND



Contaminant	MCL or TT ¹ (mg/L) ²	Potential health effects from long-term ³ exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal (mg/L) ²
 Nitrite (measured as Nitrogen)	1	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	1
 Oxamyl (Vydate)	0.2	Slight nervous system effects	Runoff/leaching from insecticide used on apples, potatoes, and tomatoes	0.2
 Pentachlorophenol	0.001	Liver or kidney problems; increased cancer risk	Discharge from wood-preserving factories	zero
 Picloram	0.5	Liver problems	Herbicide runoff	0.5
 Polychlorinated biphenyls (PCBs)	0.0005	Skin changes; thymus gland problems; immune deficiencies; reproductive or nervous system difficulties; increased risk of cancer	Runoff from landfills; discharge of waste chemicals	zero
 Radium 226 and Radium 228 (combined)	5 pCi/L	Increased risk of cancer	Erosion of natural deposits	zero
 Selenium	0.05	Hair or fingernail loss; numbness in fingers or toes; circulatory problems	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines	0.05
 Simazine	0.004	Problems with blood	Herbicide runoff	0.004
 Styrene	0.1	Liver, kidney, or circulatory system problems	Discharge from rubber and plastic factories; leaching from landfills	0.1
 Tetrachloroethylene	0.005	Liver problems; increased risk of cancer	Discharge from factories and dry cleaners	zero
 Thallium	0.002	Hair loss; changes in blood; kidney, intestine, or liver problems	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories	0.0005
 Toluene	1	Nervous system, kidney, or liver problems	Discharge from petroleum factories	1
 Total Coliforms	5.0 percent ⁸	Coliforms are bacteria that indicate that other, potentially harmful bacteria may be present. See fecal coliforms and <i>E. coli</i>	Naturally present in the environment	zero
 Total Trihalomethanes (TTHMs)	0.080	Liver, kidney, or central nervous system problems; increased risk of cancer	Byproduct of drinking water disinfection	n/a⁹
 Toxaphene	0.003	Kidney, liver, or thyroid problems; increased risk of cancer	Runoff/leaching from insecticide used on cotton and cattle	zero
 2,4,5-TP (Silvex)	0.05	Liver problems	Residue of banned herbicide	0.05
 1,2,4-Trichlorobenzene	0.07	Changes in adrenal glands	Discharge from textile finishing factories	0.07

LEGEND



DISINFECTANT

DISINFECTION
BYPRODUCTINORGANIC
CHEMICAL

MICROORGANISM

ORGANIC
CHEMICAL

RADIONUCLIDES

Contaminant	MCL or TT ¹ (mg/L) ²	Potential health effects from long-term ³ exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal (mg/L) ²
 1,1,1-Trichloroethane	0.2	Liver, nervous system, or circulatory problems	Discharge from metal degreasing sites and other factories	0.2
 1,1,2-Trichloroethane	0.005	Liver, kidney, or immune system problems	Discharge from industrial chemical factories	0.003
 Trichloroethylene	0.005	Liver problems; increased risk of cancer	Discharge from metal degreasing sites and other factories	zero
 Turbidity	TT ⁷	Turbidity is a measure of the cloudiness of water. It is used to indicate water quality and filtration effectiveness (e.g., whether disease-causing organisms are present). Higher turbidity levels are often associated with higher levels of disease-causing microorganisms such as viruses, parasites, and some bacteria. These organisms can cause short term symptoms such as nausea, cramps, diarrhea, and associated headaches.	Soil runoff	n/a
 Uranium	30µg/L	Increased risk of cancer, kidney toxicity	Erosion of natural deposits	zero
 Vinyl chloride	0.002	Increased risk of cancer	Leaching from PVC pipes; discharge from plastic factories	zero
 Viruses (enteric)	TT ⁷	Short-term exposure: Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste	zero
 Xylenes (total)	10	Nervous system damage	Discharge from petroleum factories; discharge from chemical factories	10

LEGEND



NOTES

1 Definitions

- **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 allow for a margin of safety and are non-enforceable public health goals.
- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology and taking cost into consideration. MCLs are enforceable standards.
- **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.
- **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.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

2 Units are in milligrams per liter (mg/L) unless otherwise noted. Milligrams per liter are equivalent to parts per million (ppm).

3 Health effects are from long-term exposure unless specified as short-term exposure.

4 Each water system must certify annually, in writing, to the state (using third-party or manufacturers certification) that when it uses acrylamide and/or epichlorohydrin to treat water, the combination (or product) of dose and monomer level does not exceed the levels specified, as follows: Acrylamide = 0.05 percent dosed at 1 mg/L (or equivalent); Epichlorohydrin = 0.01 percent dosed at 20 mg/L (or equivalent).

5 Lead and copper are regulated by a Treatment Technique that requires systems to control the corrosiveness of their water. If more than 10 percent of tap water samples exceed the action level, water systems must take additional steps. For copper, the action level is 1.3 mg/L, and for lead is 0.015 mg/L.

6 A routine sample that is fecal coliform-positive or E. coli-positive triggers repeat samples—if any repeat sample is total coliform-positive, the system has an acute MCL violation. A routine sample that is total coliform-positive and fecal coliform-negative or E. coli-negative triggers repeat samples—if any repeat sample is fecal coliform-positive or E. coli-positive, the system has an acute MCL violation. See also Total Coliforms.

7 EPA's surface water treatment rules require systems using surface water or ground water under the direct influence of surface water to (1) disinfect their water, and (2) filter their water or meet criteria for avoiding filtration so that the following contaminants are controlled at the following levels:

- **Cryptosporidium:** 99 percent removal for systems that filter. Unfiltered systems are required to include Cryptosporidium in their existing watershed control provisions.

- **Giardia lamblia:** 99.9 percent removal/inactivation
- **Viruses:** 99.9 percent removal/inactivation
- **Legionella:** No limit, but EPA believes that if *Giardia* and viruses are removed/inactivated, according to the treatment techniques in the surface water treatment rule, *Legionella* will also be controlled.
- **Turbidity:** For systems that use conventional or direct filtration, at no time can turbidity (cloudiness of water) go higher than 1 nephelometric turbidity unit (NTU), and samples for turbidity must be less than or equal to 0.3 NTU in at least 95 percent of the samples in any month. Systems that use filtration other than the conventional or direct filtration must follow state limits, which must include turbidity at no time exceeding 5 NTU.
- **HPC:** No more than 500 bacterial colonies per milliliter
- **Long Term 1 Enhanced Surface Water Treatment:** Surface water systems or ground water systems under the direct influence of surface water serving fewer than 10,000 people must comply with the applicable Long Term 1 Enhanced Surface Water Treatment Rule provisions (e.g. turbidity standards, individual filter monitoring, *Cryptosporidium* removal requirements, updated watershed control requirements for unfiltered systems).
- **Long Term 2 Enhanced Surface Water Treatment:** This rule applies to all surface water systems or ground water systems under the direct influence of surface water. The rule targets additional *Cryptosporidium* treatment requirements for higher risk systems and includes provisions to reduce risks from uncovered finished water storages facilities and to ensure that the systems maintain microbial protection as they take steps to reduce the formation of disinfection byproducts. (Monitoring start dates are staggered by system size. The largest systems (serving at least 100,000 people) will begin monitoring in October 2006 and the smallest systems (serving fewer than 10,000 people) will not begin monitoring until October 2008. After completing monitoring and determining their treatment bin, systems generally have three years to comply with any additional treatment requirements.)
- **Filter Backwash Recycling:** The Filter Backwash Recycling Rule requires systems that recycle to return specific recycle flows through all processes of the system's existing conventional or direct filtration system or at an alternate location approved by the state.
- 8 No more than 5.0 percent samples total coliform-positive in a month. (For water systems that collect fewer than 40 routine samples per month, no more than one sample can be total coliform-positive per month.) Every sample that has total coliform must be analyzed for either fecal coliforms or E. coli. If two consecutive TC-positive samples, and one is also positive for E. coli or fecal coliforms, system has an acute MCL violation.
- 9 Although there is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants:
 - **Halooacetic acids:** dichloroacetic acid (zero); trichloroacetic acid (0.3 mg/L)
 - **Trihalomethanes:** bromodichloromethane (zero); bromoform (zero); dibromochloromethane (0.06 mg/L)

NATIONAL SECONDARY DRINKING WATER REGULATION

National Secondary Drinking Water Regulations are non-enforceable guidelines regarding contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. EPA recommends secondary standards to water systems but does not require systems to comply. However, some states may choose to adopt them as enforceable standards.

Contaminant	Secondary Maximum Contaminant Level
Aluminum	0.05 to 0.2 mg/L
Chloride	250 mg/L
Color	15 (color units)
Copper	1.0 mg/L
Corrosivity	Noncorrosive
Fluoride	2.0 mg/L
Foaming Agents	0.5 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L
Odor	3 threshold odor number
pH	6.5-8.5
Silver	0.10 mg/L
Sulfate	250 mg/L
Total Dissolved Solids	500 mg/L
Zinc	5 mg/L

FOR MORE INFORMATION ON EPA'S
SAFE DRINKING WATER:



visit: epa.gov/safewater



call: (800) 426-4791

ADDITIONAL INFORMATION:

To order additional posters or other ground water and drinking water publications, please contact the National Service Center for Environmental Publications at: **(800) 490-9198**, or email: nscep@bps-lmit.com.



Appendix 12: TROAA and the Settlement Act

Nevada LAFCO's 2005 Municipal Service Review on East County Water Services included the following text regarding the Truckee River, TROAA, and the federal Settlement Act.

The Truckee River runs from Lake Tahoe, California, into the saline Pyramid Lake in Nevada. The Truckee River crosses the Martis Valley basin from the south to east in a shallow, incised channel. The principal tributaries to the Truckee River are Donner Creek, Martis Creek, and Prosser Creek. Major lakes include Donner Lake, Martis Creek Lake, Prosser Creek Reservoir and Independence Reservoir. Figure 1 depicts hydrological features in the vicinity project.

In addition to the limits of water availability resulting from the physical characteristics of the Martis Valley Basin, there are legal limitations that may affect the amount of water that can be used within the Plan area. Primary among these legal limitations is the Truckee-Carson-Pyramid Lake Settlement Act (P.L. 101-618, or "Settlement Act"), passed by Congress in 1990.

The Settlement Act was aimed at resolving long-standing disputes over the sharing of the water resources of the Tahoe and Truckee River Basins. The disputes involved conflicting claims of entitlement by the Pyramid Lake Paiute Tribe of Indians, whose reservation is in Nevada; by the State of Nevada and its water users; by Truckee Meadows Water Authority, the water supplier to the growing cities of Reno and Sparks; by the United States, which delivers Truckee River water for irrigation of the Truckee-Carson Irrigation District and for fishery purposes; and by the State of California and its water users. These disputes have rendered the States of Nevada and California unable to manage and administer their water right laws to permit appropriation of water within the Truckee River watershed for almost 30 years.

In the 1990 Settlement Act, Congress established an allocation of water between the 2 states, but provided that the allocation would not become effective until an operating agreement, the "Truckee River Operating Agreement" or "TROA" was signed by the 5 disputing parties. At this time, the basic principles of the TROA have been negotiated, although it cannot be finalized or executed until an Environmental Impact Statement (federal) and an Environmental Impact Report (California) are completed and certified. Nevertheless, in its Martis Valley Groundwater Management Plan, dated October 6, 1998, PCWA has assumed the future execution and implementation of TROA and the applicability of the Settlement Act's allocation and restrictions. The Martis Valley Community Plan will likewise assume that the Settlement Act and TROA is a limiting factor in future water supply development.

The Settlement Act's allocation of water for use in California in the Truckee River watershed outside of the Lake Tahoe basin is 32,000 acre feet per year of gross diversion, of which no more than 10,000 acre feet can be taken from surface streams. In the TROA negotiation, the parties have agreed that consumptive uses would consume 55 percent of the allowable gross diversion of 32,000 acre feet; and therefore that a cap should be set on consumptive uses at 17,600 acre feet per year (Draft TROA, Section 6.E.2.).

In addition to the gross allocation of 32,000 acre feet (net depletion of 17,600 acre feet per year) of water to the Truckee River Basin, the Settlement Act imposes conditions on the manner in which water may be taken for use, and establishes a mechanism for resolving further interstate disputes concerning groundwater availability in the Martis Valley, should one arise. New wells are required to be located so as to minimize any short-term reductions in surface flows.

In the TROA negotiations, the parties have agreed that the Settlement Act's well siting limitation should be implemented by establishing minimum setbacks from surface streams, outside of which wells would be deemed to comply with the Settlement Act's requirements. Well setbacks from the Truckee River and lakes that are 500 feet from the centerline or high water mark; from perennial streams, lakes thereon and springs, 200 feet; and from intermittent streams and springs, 50 feet, would satisfy the Settlement Act's restrictions.

A key element of the TROA agreement is a commitment by the cities of Reno and Sparks and the Department of Interior to spend up to \$24 million to purchase water rights from the Truckee Canal that are appurtenant to what is colloquially known as the Fernley agricultural area. Purchased water would subsequently be stored in upper Fernley Basin reservoirs for release under low-flow conditions to help Reno and Sparks meet water quality objectives, particularly those related to nutrients and dissolved oxygen. It was further anticipated that a reduction in irrigated agriculture within the Fernley area would result in an associated decrease in high total dissolved solids (TDS) groundwater discharge to the river, helping to mitigate salinity loading to Pyramid Lake.

Finally, while the Settlement Act allows Nevada users to take water in California for use in the State of Nevada so long as it is not needed in California, the Act prohibits Nevada users from taking California groundwater if the extraction would cause the groundwater basin's safe yield to be exceeded. The United States Geological Survey was named by the Settlement Act to perform as arbiter in the limited circumstance of an interstate dispute over safe yield. Because this provision of the Settlement Act arises only with respect to interstate use of groundwater, it has no application to groundwater availability for use within California.

The State Water Resources Control Board (SWRCB) affirms that there are approximately 100 rights of record in the Truckee River Basin that are for use of water in California. The thirteen largest diverters hold rights to over 95 percent of the total rights accounting for a diversion of 3,090 AFA. The rights of record authorize diversion of well over 10,000 AFA. However, SWRCB staff believes that some of their estimates may not be accurate and that some diversions may no longer exist. Also, there may be diversions of water that are not a matter of record with the SWRCB because the diverters have not filed a Statement of Water Diversion and Use (for riparian or pre-1914 appropriative rights) or have not secured a permit. To account for probable changes in water usage in the area, SWRCB estimated the annual water diversion in the Truckee River Basin is between 2,500 to 4,000 AFA (Placer County Water Agency, 2001). This would indicate that 6,000 to 7,500 AFA of surface water is available for diversion.

Appendix 13: TDPUD Water Conservation Program

California Climate and Hydrology

California's location near the Pacific Ocean and its geographical features contribute to the state's overall climate such that Northern California tends to have wet winters and Southern California is drier. Some of the rainiest parts of the state are west-facing mountain slopes. Northwestern California has a temperate climate, and the Central Valley has a Mediterranean climate but with greater temperature extremes than the coast. The high mountains, including the Sierra Nevada, have an alpine climate with snow in winter and mild to moderate heat in summer (Wikipedia, 2019). As a result, hydrological conditions in the State are highly variable as the hydrology shifts from drought to El Nino conditions. Climate change has exacerbated the hydrological variable, increasing the risk of long-term droughts. Additionally, dry weather can increase the risk of destructive wildfires. A long-term trend of smaller sized snowpacks in Northern California is projected by climate models. To reduce the potential harm caused by droughts, fires, and reduced snowpack, the state has enacted several key pieces of water conservation legislation in recent years.

Truckee Area - Climate and Hydrology

Truckee has a dry-summer continental climate (Köppen *Dsb*) with cold snowy winters and warm dry summers. Due to its location near the crest of the Sierra Nevada Mountains, winter storms may commonly deposit nearly a meter of snow in a 24-hour storm event and the occasional week-long storm event can deliver 2 to 3 meters of snow. However, similar to California as a whole, weather and hydrology are both highly variable and drought can be a persistent feature.

California Water Conservation Regulations

California aims to make its water supply stretch as far as possible. To improve water conservation and drought planning the California legislature and governor passed Senate Bill 606 (Hertzberg) and Assembly Bill 1668 (Friedman) into law in 2018. Collectively, these efforts provide a road map for all Californians to work together to ensure that there will be enough water for key beneficial uses.

A timeline of the significant water conservation actions, including legislation and planning documents is presented in Table A13-1, below.

Date	Action	Notes/Website
2009	Water Conservation Act	https://water.ca.gov/Programs/Water-Use-And-Efficiency/SB-X7-7
Spring 2015	The CA Water Resources Control Board released a Notice of Proposed Emergency Regulations. Then, following public comment period, the SWRCB adopted an emergency regulation to implement the Executive	https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/emergency_regulation.html

	Order. Under the Emergency Regulations, 411 urban water providers in the State were classified into nine tiers and assigned a required conservation standard which is imposed on each tier. The tier classifications are based upon a water supplier's per capita water usage.	
2016	DWR Updated the California Water Action Plan	http://resources.ca.gov/docs/california_water_action_plan/Final_California_Water_Action_Plan.pdf
2017	The 2015 Emergency Regulations were superseded	https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/emergency_regulation.html
2018	Senate Bill 606 (Hertzberg) and Assembly Bill 1668 (Friedman) signed by Governor Brown	https://water.ca.gov/Programs/Water-Use-And-Efficiency/Making-Conservation-a-California-Way-of-Life

Together Senate Bill 606 (Hertzberg) and Assembly Bill 1668 (Friedman) do the following:

- Set water use objectives for urban and commercial water suppliers:
 - Establishes urban water use objectives and water use reporting requirements, including a requirement that an urban water supplier will calculate an aggregate urban water use objective for the previous calendar year beginning Nov. 1, 2023 (SB 606).
 - Establishes urban water use objectives and reporting standards for indoor and outdoor residential and commercial use (AB 1668).
 - Requires the State Water Resources Control Board (SWRCB) to coordinate with the Department of Water Resources (DWR) to make recommendations and adopt long-term standards for efficient water use (AB 1668).
- Establish reporting requirements and oversight:
 - Requires an urban water supplier to submit an annual report to DWR including the urban water use objective and actual water use (SB 606).
 - States the Legislature's intent for oversight hearings with the SWRCB and DWR by early in 2026 (SB 606).
 - Requires the Legislative Analyst's Office to evaluate implementation by Jan. 10, 2024 (SB 606).
- Outline enforcement actions by the State Water Resources Control Board:
 - Authorizes SWRCB to issue information orders, written notices, and conservation orders to an urban water supplier that does not meet its water use objective. Conservation orders are prohibited from curtailing or otherwise limiting the supplier's exercise of water rights (SB 606).
 - Expands local agency fining authority to include violations of certain regulations adopted by the SWB related to urban water use (SB 606).
- Plan for future droughts:
 - Revises urban water management plans to include a simple lay description of the reliability of its water supplies, the agency's strategy for meeting its water needs, and other information necessary to provide a general understanding of the agency's plan (SB 606).

- Requires an urban water supplier to make the water shortage contingency plan available to its customers and any city or county within which it provides water supplies no later than 30 days after adoption (SB 606).
- Requires an urban water supplier to conduct a water supply and demand assessment and provide that information to DWR with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan each May (SB 606).
- Requires the governing body of a distributor of a public water supply to declare a water shortage emergency condition whenever it determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply to the extent that there would be insufficient water for human consumption, sanitation, and fire protection (SB 606).
- Revises the agricultural water management-planning act to do a number of things, including quantify measure to increase agricultural water use efficiency and an annual water budget (AB 1668).
- Direct the DWR and SWRCB to identify small or rural communities that could be at risk of drought and to develop and use countrywide drought contingency plans (AB 1668).
- Source: California League of Cities:
<https://www.cacities.org/Top/News/News-Articles/2018/June/Governor-Signs-Water-Conservation-Legislation>

Truckee Donner Public Utility District - Drought Response Actions

On September 10, 2014, the Board adopted Ordinance No. 2014-05, an updated emergency water conservation program that took effect on October 10, 2014 (the "2014 Ordinance"). The 2014 Ordinance includes five stages of action that are designed to reduce the quantity of water used within the District in the event of a future water supply or drought emergency. In the event of a water conservation emergency, the General Manager can implement a series of water conservation measures that are outlined in five stages as listed below.

- 1) Stage 1: voluntary restrictions to reduce water consumption by approximately 10%. Stage 1 limits the irrigation with potable water of ornamental landscapes and turf to every other day, prohibits the application of potable water to driveways and sidewalks unless for driveway sealing or construction, and prohibits the use of a hose to wash a motor vehicle with potable water, except where the hose is fitted with a shut-off nozzle (Brandis Tallman, 2015).
- 2) Stage 2: mandatory restrictions to reduce water consumption by 20%. The restrictions imposed in Stage 1 continue to apply during Stage 2, and customers may be subject to fines and penalties for failure to comply with the requirements (Brandis Tallman, 2015).
- 3) Stage 3: mandatory restrictions to reduce water consumption by 30%. Stage 3 limits irrigation of ornamental landscapes and turf to three days per week, prohibits the application of potable water to driveways and sidewalks, and prohibits the use of a hose to wash a motor vehicle with potable water, except where the hose is fitted with a shut-off nozzle. As with Stage 2, during Stage 3, customers may be subject to fines and penalties for failure to comply with the requirements. Additionally, during Stage 3, the

District to install flow restricting devices on a customer's service (Brandis Tallman, 2015).

- 4) Stage 4: mandatory restrictions to reduce water consumption by 40%. Stage 4 limits irrigation of ornamental landscapes and turf to two days per week, prohibits the application of potable water to driveways and sidewalks, and prohibits the use of a hose to wash a motor vehicle with potable water, except where the hose is fitted with a shut-off nozzle. Customers may be subject to fines and penalties for failure to comply with the requirements, and as is the case in Stage 3, the District may install flow restricting devices on a customer's service. Additionally, repair of any customer leak in plumbing and/or irrigation system is mandated. (Brandis Tallman, 2015).
- 5) Stage 5: mandatory restrictions to reduce water consumption by 50%. Stage 5 prohibits the use of outdoor water in the area affected by the conservation requirement. Stage 5 authorizes the District to install flow restricting devices on a customer's service, to implement mandatory water rationing through the use of rolling outages, and to discontinue irrigation services. Customers continue to be subject to fines and penalties for failure to comply with the requirements of Stage 5 (Brandis Tallman, 2015).

The District is not currently experiencing a water supply shortage. Future short-term drought is projected have negligible impacts on District water supplies (Brandis Tallman, 2015). Long-term droughts have been found in the geologic record for the Tahoe area; however, they are difficult to predict and plan for. However, the District's Water Conservation Plan, Ordinance No. 2014-05, provides specific measures to help the District and its customers cope with any future droughts. TDPUD may need to conduct additional water conservation planning if required by the new 2018 state water conservation laws.

As customers implement water conservation measures, the District would sell less water and could see a decrease in water sales revenues. The decreased revenue could be offset by a corresponding reduction in variable water production and distribution expenses. Remaining differences between revenue and expenses, if any, would likely be covered through the use of District reserves in the short-term, and during the budget cycle, the District could consider rate adjustments to ensure the financial stability of the Water System. (Brandis Tallman, 2015). The financial implications of drought would need to be evaluated by TDPUD based on the specific future hydrological and financial conditions.

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APPENDIX 14: FUTURE GROWTH SCENARIO FOR WATER SUPPLY PLANNING

The CKH Act and specifically, Govt. Code § 5668(k), suggest that as part of its duties in preparing MSRs and SOI studies, LAFCO must consider the timely availability of adequate water supplies. For the TDPUD, water supply is analyzed in the District's 2015 Urban Water Management Plan (UWMP) (published in 2016). The UWMP utilized the best available data at that time. However, since the Town of Truckee is currently updating its General Plan, this MSR included two population growth scenarios for Truckee including "slow-growth" scenario and the "fast-growth" scenario. These scenarios are provided so that LAFCO has objective models to consider future growth in relation to the availability of public services including water supply as required by the CKH Act.

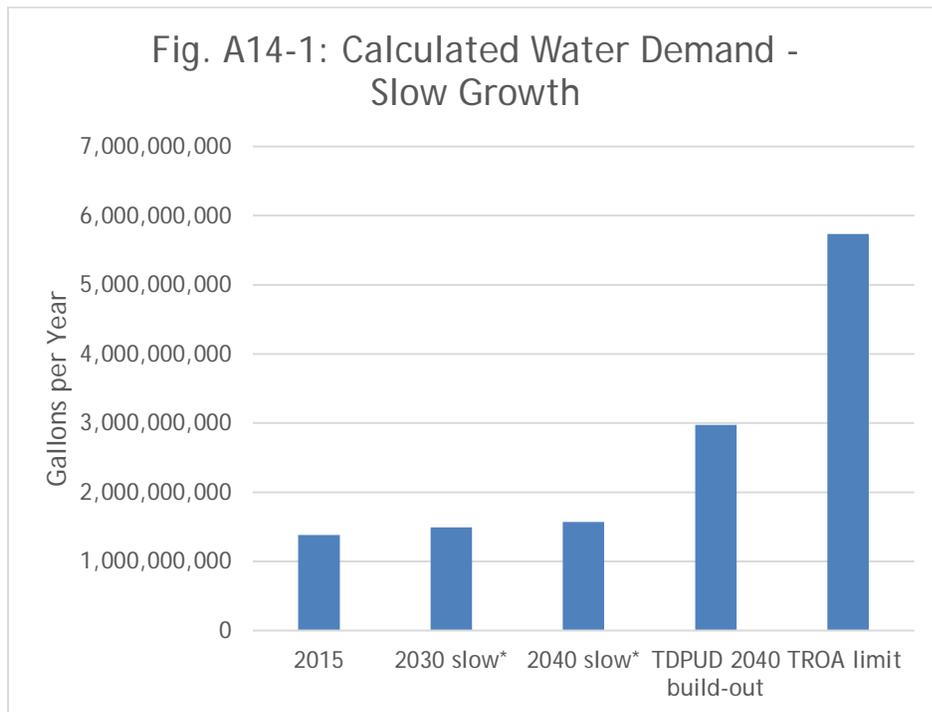
In Table A14-1 below, existing (2015) population and water use data was used to calculate the average amount of water used per person at 77,141 gallons per person per year. The average gallons per person per year was assumed to be constant in the various population growth scenarios listed and was multiplied with the projected future population to compute projected total water demand as shown in the second column of the following table. Table A14-1 below refers to the following population growth scenarios in the first column:

- "2015" refers to the population in TDPUD boundaries in year 2015 as provided by the U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates.
- "2030 slow" refers to a future population growth scenario as listed in Table 4-7.
- "2030 fast" refers to a future population growth scenario as listed in Table 4-7.
- "2040 slow" refers to a future population growth scenario as listed in Table 4-7.
- "2040 fast" refers to a future population growth scenario as listed in Table 4-7.
- "TDPUD 2040 build-out" refers to the TDPUD 2015 Urban Water Management Plan (UWMP), which calculated that in the year 2040 at "build-out", the amount of water legally available would be sufficient to match future water demands. TDPUD's 2015 UWMP assumed a population of 28,300, which is a bit larger than the MSR 2040 slow growth scenario and significantly less than the MSR fast-growth scenario.
- "TROA limit" refers to the Truckee River Operating Agreement described in Section 4.4 and as listed in Table 4-17.

Table A14-1: Projected Water Demand Under Future Growth Scenario				
Scenario/Year	Total Water Demand on Annual Basis (Potable Water) in gallons	Total Water Demand on Annual Basis (Potable Water) in acre-feet (AFY)	Estimated Total Population in TDPUD boundaries	Average gallons per person per year
2015	1,384,000,000	4,247	17,941	77,141
2030 slow	1,490,286,979	4,573	19,319	77,141
2030 fast	3,176,049,252	9,746	41,172	77,141
2040 slow	1,570,513,619	4,819	20,359	77,141
2040 fast	5,167,984,154	15,859	66,994	77,141
TDPUD 2044 build-out	2,973,000,000	9,123	28,300	n/a
TROA limit	5,735,000,000	17,600	n/a	n/a

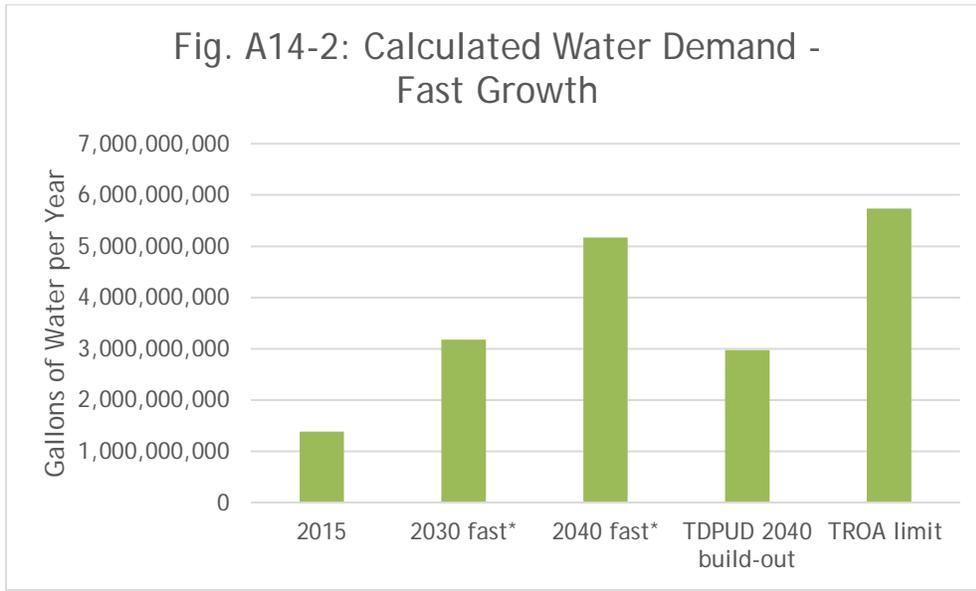
***Brown font color indicates this number was calculated by SWALE Inc. Black font indicates number was derived from TDPUD reports and/or state population data (DOF).*

The graph shown below, Figure A14-1, represents the same data in visual form, to facilitate comparison under the “slow-growth” scenario. In the figure below, the 4th bar called “TDPUD 2040 build-out” number is directly from the 2015 UWMP. It is between the “slow-growth” and the “fast-growth” scenarios, indicating that it is a reasonable number to use.



Under the slow growth scenario, the 2040 water demand projection is significantly less than the TPDUD 2040 build out and the TROA limit. This indicates that under the slow-growth scenario, it is projected that the legally available water supply will be sufficient to supply future growth.

Figure A14-2, below, shows the same data from the above table, in graphic form, to facilitate comparison under the “fast-growth” scenario:



While it is not likely that the “fast-growth” scenario will manifest due to the 2008 economic recession and other factors, this is the scenario outlined in the existing Truckee General Plan. The 2015 UWMP assumed a mid-point scenario that does not capture all the growth anticipated in the existing Truckee General Plan. However, the Town of Truckee is in the process of updating its General Plan, which creates some uncertainty about future rate of growth in the Truckee area. Additionally, please note that the methodology used in this Appendix is not perfect since the average water use per person is a rough estimate. Water conservation, the rate of commercial development as compared to residential development, and/or other factors, could change the amount of water used per person (i.e. water demand). Further compounding future projections is that natural water supply could change in the future due to climate change, such that snowpack variability could increase and more precipitation could occur as rain, with increased run-off as overland flow and limited opportunity for groundwater recharge (Avery et. al., 2018; Visser et. al., 2013; and Rajagopal, 2015). Therefore, the numbers in Table A14-1 are “back of the envelope” type calculations to create an estimate based on current trends.

TROA limits water use in the basin to 5,735,000,000 gallons per year. Under the “fast-growth” scenario, TDPUD alone approaches 90% of this water as shown in the above Figure. This number does not yet count all the other water uses in the Basin such as:

- Northstar Community Services District
- five golf courses

- Teichert Aggregates
- Martis Creek Campground
- TNT Materials concrete plant
- a number of small wells supporting individual residences (TDPUD, 2016)
- downstream users in the state of Nevada and subject to TROA.

It is important for TDPUD to continue to manage its water consumption with due consideration for these other water users. Under the MSR's fast growth scenario, it is possible that in 2040 TDPUD's water demand could approach 90% of the allowable TROA limit, suggesting that when the Town of Truckee updates its General Plan, they need to carefully consider the legally available water supply in light of future water demand and not simply rely upon the 2015 UWMP.

In California, LAFCo's generally encourage local agencies to work closely together to coordinate population, land-use, water supply, water demand projections and to ideally ensure that common data sources and numbers are based on updated information and are agreed upon by agency stakeholders. Based on the analysis presented in this Appendix, the following determinations are recommended:

- If the update to the Truckee General Plan allows population growth (both residents and visitors) that approaches the MSR "fast-growth" scenario, then TDPUD and the Town of Truckee should closely coordinate regarding demands on future water supply. When TDPUD next updates its UWMP, expected in 2020, it should utilize future population projections are consistent with the projections of the Town and both Nevada and Placer Counties.
- TDPUD should closely monitor the Town of Truckee's General Plan Update process. TDPUD should ensure the Town understands that if future population growth approaches the MSR "fast-growth" scenario, extra care will be necessary when calculating future water demand in light of TROA limitations and other water supply constraints.
- Both TDPUD and the Town of Truckee should continue to consider cumulative future water demand on the MVGWB and should ensure that SGMA Sustainability Criteria is met.

In conclusion, the District's 2015 UWMP used a reasonable methodology and this MSR does utilize the UWMP as one reliable information source (in addition to other sources as listed in the reference chapter). Please note that no projection or model can be classified as "accurate" because of the inherent uncertainties with showing what the future holds. Rather, most scientists consider the usefulness of models based upon the best available information. Therefore, a cautious approach is valid and the determinations recommended herein should be considered by LAFCo.

Appendix 15: List of TDPUD Facilities

Appendix X: Truckee Donner Water Facilities						
NAME	ADDRESS	APN	ACRES	OWN	EASEMENT	ZONING
Airport Well (Nevada County)	10187 Truckee Airport Rd	19-620-28	0.42	Y	NA	P (Public-Nev Co)
Alder Creek Pump Station	14686 Slalom Way	46-030-02	0.02	Y	NA	RS-X
Armstrong Tank	12534 Sierra Dr West	18-800-24	---	N	Y	RR-0.15
A-Well	16363 Skislope Way	46-250-05	---	N	Y	REC
China Camp	11961 Alder Dr	19-370-49	---	N	Y	OS
College PRV	10305 Highway 89 South	18-660-38	---	N	ROW	PC
Donner Creek Well	11348 Deerfield Rd	18-750-05	0.02	Y	NA	CH
Donner Lake Tank	10779 Donner Lake Rd	NA	NA	NA	ROW	---
Donner Trail (Pump Station)	11777 Bull Pine Trail	16-680-20	0.15	Y	NA	RS-X
Donner Trail (Tank)	11783 Bull Pine Trail	16-680-21	0.35	Y	NA	RS-X
Donner View	11882 Skislope Way	44-410-50	0.59	Y	NA	RS-X
Falcon Point	12564 Falcon Point	45-670-06	0.3	Y	NA	RS-X
Fibreboard Well	12650 Caleb Cir	17-760-02	---	N	Y	REC
Frost Fire Well	Frost Fire Pl & Wolfe Dr	17-520-13	0.09	Y	NA	RS-X
Gateway FCV	10770 Donner Pass Rd	19-650-11	---	N	ROW	---
Gateway Tank	11280 Valley Rd	18-570-61	0.89	Y	NA	PF
Ghirard PRV (across from TSD Station on E Alder Creek)	East Alder Creek Rd Glacier Tank	19-370-39	---	N	ROW	---
Glacier Tank	16134 Skislope Way	46-260-01	0.41	Y	NA	PF
Glenshire Drive Well	12421 Glenshire Dr		0.33	Y	NA	PF
Glenshire FCV	14630 Glenshire Dr	NA	---	N	ROW	---
Herringbone	13892 Herringbone Way	44-440-15	0.29	Y	NA	PF
Hirschdale (Nevada County)	10890 Juniper Way	48-110-14	0.96	Y	NA	IDR
Innsbruck	11069 Innsbruck Ave	44-030-18	0.34	Y	NA	RS-X
Lewis Well	10527 Cold Stream Rd	18-760-16	0.01	Y	NA	CH
Martis Valley Well	12201 Joerger Rd	19-440-81	---	N	Y	PF
Martiswoods (Placer County)	11720 Rocky Ridge Ct	080-360-060	0.23	Y	NA	U(Utility)
Northside Well (and Pump Station)	10181 Indian Jack Rd	19-460-46	5.81	Y	NA	RS-0.5
Old Greenwood Well	12915 Fairway Dr	19-720-01	---	N	Y	REC
Pinnacle	13046 Pinnacle Loop	46-370-22	0.34	Y	NA	RS-X
Ponderosa Palisades	10661 Rainbow Ct	19-300-51	2.29	Y	NA	PF
Ponderosa Palisades West (Placer County)	11922 Rio Vista Dr	080-320-035	---	N	ROW	---
Prosser Annex Well (Well & Tank 2 sites)	10620 No Other Way	19-380-14	0.48	Y	N	RR-0.1
Prosser Heights Tank	11059 Beacon Rd	19-390-01	---	N	Y	RR-0.15
Prosser Heights Well	10964 Alder Dr	19-220-23	0.23	Y	NA	RR-X
Prosser Lakeview Tank	12007 Pine Forest Rd	16-320-34	0.23	Y	NA	RS-X
Prosser Village Well	Overland Trail (North side)	19-720-01	---	N	Y	REC
Red Mountain (Placer County)	14701 Devils Peak Rd	069-383-016	1	Y	NA	RSB-20
Sitzmark	11357 Sitzmark Way	---	---	N	ROW	---
Ski Lodge	16322 Ski Slope Way	45-520-23	0.47	Y	NA	RS-X
Ski Run	15530 Ski Slope Way	19-420-21	0.27	Y	NA	M
Soma Sierra (Pump Station)	11778 Cedar Trail Soma Sierra (Tank)	19-300-37	0.19	Y	NA	RR-0.2
Soma Sierra (Tank)	None	45-260-08	0.96	Y	NA	PF
Somerset Tanks (Nevada County-access Somerset Dr)	11263 The Strand	46-230-02	0.54	Y	NA	RS-X
Southside Well	10514 Brockway Rd	46-200-02	0.63	Y	NA	RS-X
Stockholm	12432 Stockholm Way	18-670-09	0.83	Y	NA	RS-X
The Strand (Pump Station)	The Strand	18-031-47	1.32	Y	NA	PF
The Strand Tanks (Nevada County-access from The Strand)	11194 Coldwater Rd Well 20 (Nevada County-access from Somerset Dr)	49-130-03	---	N	Y	AG-X
Well 20	10730 Balfour Reach	19-450-66	5.03	Y	NA	RC
West Reed Control Valve	15104 West Reed Ave	46-330-32	0.52	Y	NA	RS-X
Wolfe Estates (Tank)	16255 Cinnamon Ridge Pl	---	0.44	Y	NA	PF
Wolfe Estates Hydro	16250 Bingham Ct	49-110-06	---	N	Y	AG-X

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Appendix 16: Four Parcels on Somerset Drive

The Truckee Donner Public Utility District (TDPUD) has water pipes that cross four parcels located on Somerset Drive in the Truckee area as shown in green on Figure A16-1, below. The four parcels (APNs 49-130-16, 49-130-15, 49-130-03, 49-110-06) are located adjacent to and east to southeast of the PUD boundary. Annexation of these parcels into the PUD’s boundary was never approved by LAFCO (Nevada LAFCO files). Two of these parcels are vacant and likely do not receive water service, (APNs 49-130-16 and 49-130-15). The remaining two parcels (APNs 49-130-03 and 49-110-06) are located adjacent to and east to southeast of the PUD boundary and do contain single family homes and associated infrastructure as listed in Table 4-4, below. These parcels appear to use wells to access groundwater. Although the parcels are not currently within the TDPUD’s SOI, they are within the Area of Interest. In the past, LAFCO suggested to TDPUD staff that they initiate an annexation of the two parcels; however, to date TDPUD has not applied for formal annexation of these parcels into the PUD’s boundary (Nevada LAFCO files). Additional details about the four parcels listed above is provided in Table A16-1, below.

APN	Address	Notes
49-130-16	10905 Somerset Dr, Truckee CA	Vacant. A building permit for electric gate was considered in the past.
49-130-15	10730 Balfour Reach, Truckee CA	A small white structure is located on the parcel. Although a building permit was issued in 2002 to allow construction of a single-family home and this permit has since expired. The County Assessor Office data shows this parcel to be vacant.
49-130-03	11263 The Strand, Truckee CA	A single-family home, 6,382 square feet, and an outbuilding are located on this parcel.
49-110-06	11194 Coldwater Road, Truckee CA	In 1995 the County Planning Department issued a Use Permit to allow Glenshire Mutual Water Company to construct a new 300,000-gallon water tank to be placed along the existing water tank. A total of 2 water tanks are on this parcel. Additionally, in 2011 to 2014 a building permit was issued to allow construction of a new single-family home near the northwest corner of the parcel.
<i>Data Source: https://gis.nevcounty.net/MyNeighborhood/</i>		

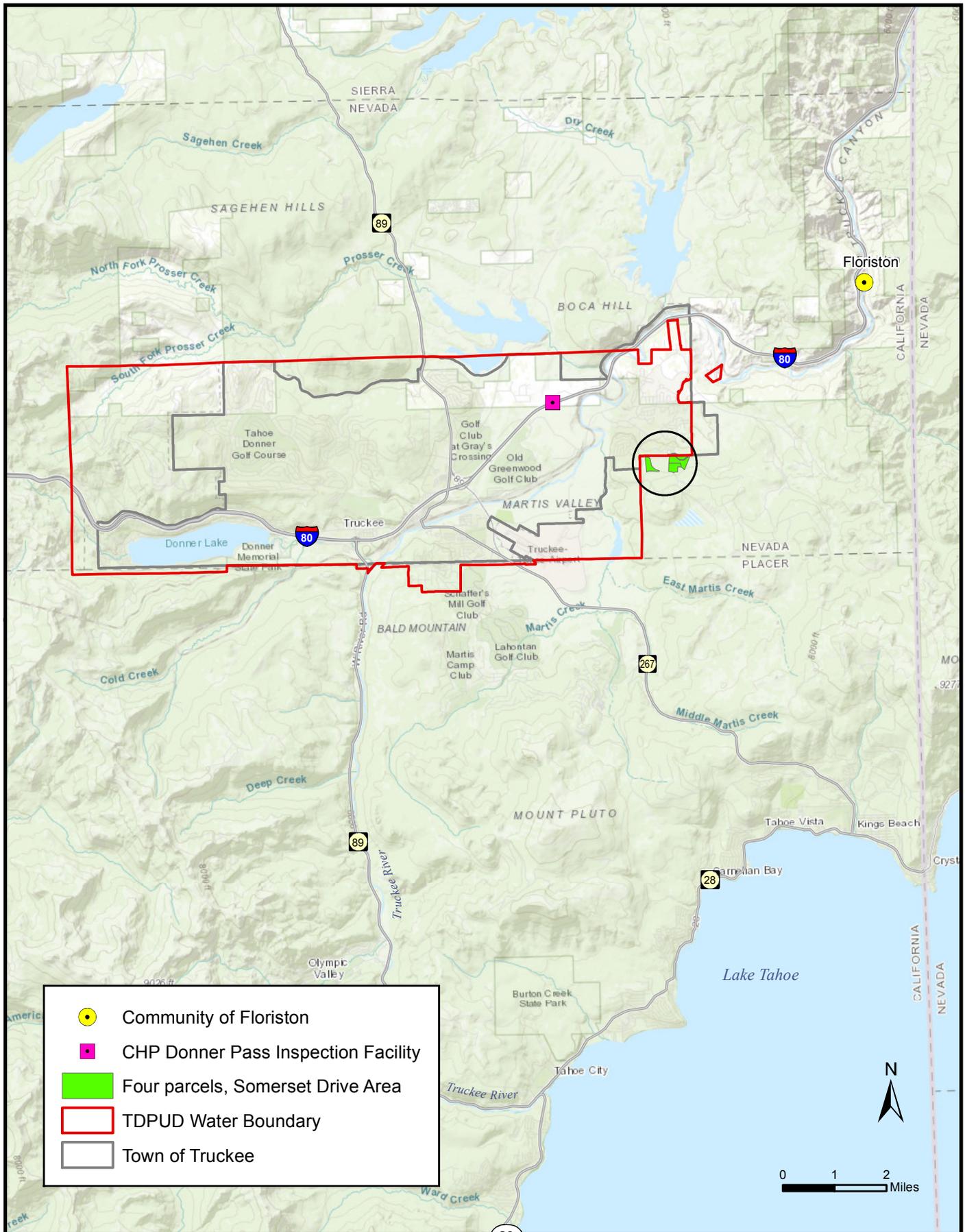


Figure A16 -1

LOCATION SOMERSET DRIVE - FOUR PARCELS

APPENDIX 17: SOI Update – Potential Future Options for TDPUD

SPHERE OF INFLUENCE CONSIDERATIONS

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 requires that LAFCo review and update the Sphere of Influence (SOI or Sphere) for each of the special districts and cities within the county. In determining the Sphere of Influence for an agency, LAFCo must consider and prepare written determinations with respect to five factors [Government Code §56425(e)]. These factors relate to the present and planned land uses including agricultural and open-space lands; the present and probable need for public facilities and services; the present capacity of public facilities and adequacy of public services; the existence of any social or economic communities of interest in the area and, for agencies that provide sewer, water or structural fire protection, the present and probable need for those services for any disadvantaged unincorporated communities within the sphere. Further, Nevada LAFCo policies relating to spheres specify that lands within the sphere should be placed in one of two planning horizons (five-year and later). Commission policies also require the relevant MSR data be utilized to document service and facility capacity. TDPUD is a multi-service agency in that it provides both water and electrical service. Consistent with the CKH Act, LAFCo establishes the location of each service. This appendix offers preliminary suggestions for future SOI update consideration of water service only (i.e. electric service is not discussed herein).

SPHERE OF INFLUENCE OPTIONS

The intent of an SOI is to identify the most appropriate areas for an agency to provide services in the *probable future*. Pursuant to Nevada LAFCo policies relating to SOIs, LAFCo discourages inclusion of land in an agency's sphere if a need for services provided by that agency cannot be demonstrated. Accordingly, territory included in an agency's sphere is an indication that the probable need for service has been established, and that the subject agency has been determined by LAFCo to be the most logical service provider for the area.

There are a number of ways to look at Spheres of Influence. One option is to consider growth and development and the need for municipal services over time. Under Nevada LAFCo policies, a *Near Term Sphere Horizon* considers a five-year window (i.e., from the present to five years from now). A *Long-Term Sphere Horizon* considers growth and development and the need for municipal services beyond the five-year window.

A second option is to determine an agency's ability to provide municipal services beyond its current boundary. For a City or District that does not plan to provide municipal services beyond its present boundary, a Sphere boundary that is the same as the agency boundary is called a *Coterminous Sphere of Influence*.

A third option is related to reducing the current Sphere of Influence of an agency by adopting a *Minus Sphere of Influence* (or Reduced Sphere of Influence) by excluding territory currently within an agency's Sphere.

A fourth option relates to sphere areas for which municipal services are not intended to be provided; that is, areas within a sphere which will remain undeveloped (such as open space or 'protected lands'). Such an area is a special case and requires the agency to demonstrate why an area should be included within a Sphere for which no municipal services will be provided.

LAFCo also has the ability to determine a *Zero Sphere of Influence* for a City or District, signaling that the City or District does not have the wherewithal, governance capability, financial means, and/or operational capability to provide the municipal services for which it was formed, and should be dissolved or its function(s) reallocated to another agency.

Nevada LAFCo has an additional category related to spheres called *Areas of Interest*. Areas of Interest are defined as "a geographic area beyond the Sphere of Influence in which land use decisions or other government actions of one local agency impact directly or indirectly upon another local agency."

Presented within this Appendix are suggestions for potential future Sphere of Influence Options for the Truckee Donner Public Utility District, for which Nevada LAFCo is the principal LAFCo. For the remaining district studied in this MSR (Donner Summit PUD), Placer LAFCo is the "principal" LAFCo and as such determines their sphere of influence. The options presented within this Appendix for the TDPUD are suggestions for future study. These options are not mutually exclusive, but can be utilized in combination to allow the Commission to adopt the most appropriate Sphere Update for the District. Additionally, the Commission is not limited to those options described herein, but may choose to study different options in the future. Suggestions for potential Sphere Options are presented below, followed by a discussion of the options, along with a Sphere matrix of factors LAFCo considers in updating a Sphere of Influence.

SUMMARY OF SPHERE UPDATE PROCESS

This Appendix presents options for updating the SOI in the future for the Truckee Donner Public Utility District (TDPUD) water service. TDPUD is described in Chapter 4 of this MSR as it relates to the provision of water services. The presented options are informational and may assist the Commission in considering next steps. When LAFCo moves to update the SOI at some future date, the Commission may also consider additional information beyond that presented herein. For example, the current status of any nearby Disadvantaged Unincorporated Communities (DUCs) will be recognized. LAFCo's process provides for a meeting/conference with the District prior to updating a district's SOI. Additionally, the Commission will hold a public hearing and adopt written statements of fact regarding the SOI prior to adopting any updates.

TRUCKEE DONNER PUBLIC UTILITY DISTRICT

Existing Sphere of Influence for TDPUD

LAFCo approved TDPUD’s existing Sphere of Influence on September 19, 2013 via Resolution No. 13-05. The TDPUD sphere of influence (SOI) is comprised of an SOI for water service and an SOI for electrical service as shown in Figure 4-1 on page 4-1 of this MSR. This MSR and this appendix focus on the water services SOI only, which is comprised of near-term, long-term and Areas of Interest for TDPUD. The water service near-term SOI includes one small area to the west and the Stampede Meadow area to the east of the PUD’s boundaries. TDPUD’s near term water service SOI has a planning horizon of five years, to 2018, and contains a total of 449 acres. The water service long-term SOI includes a significant area located east of the Town of Truckee and includes Hobart Mills to the north of the Town. TDPUD’s long term water SOI has a planning horizon of 20 years, to 2033, and contains a total of 1,395 acres as described in Table 4-2. Additionally, a significant portion of eastern Nevada County surrounding the Town of Truckee is included in an Area of Interest (Nevada LAFCo, 2013). The Area of Interest makes up roughly 17,665 acres in Nevada County. The Area of Interest designates areas located outside of the District boundaries, and acknowledges that land use actions of one agency (such as Nevada County or Truckee) may have impact on another (such as TDPUD). There are no areas within Placer County that have been designated as an Area of Interest (Nevada LAFCo, Resolution No. 13-05). A detailed description of the specific neighborhoods within the near-term and long-term SOI areas is provided in Chapter 4 and shown on Figure 4-1.

Sphere of Influence Update – Future Options

Given the considerations addressed in this 2019 Water Services MSR for eastern Nevada County, five options have been identified for the Truckee Donner Public Utility District Sphere as listed below. This section is provided for informational purposes only and when Nevada LAFCo next updates the SOI for the TDPUD it may wish to consider these or other options.

1. Retain the Existing Time Horizons for the Near-term Sphere and the Long-term Sphere
2. Re-designate the Time Horizons for the Near-term Sphere and the Long-term Sphere

Designate the Near-term Sphere time period to extend from 2018 to 2024; and designate the Long-term Sphere time period from 2025 to 2039. The long-term sphere would have a fourteen-year time horizon.

3. Merge the Near-term and Long-term Time Horizons

Under this option, both existing time horizons would be merged into a single time horizon that would run until 2039.

4. Add Groundwater Basin Collaboration Area into the Area of Interest

This option would expand TDPUD’s Area of Interest to encompass the southern portion of the Martis Valley Groundwater Basin, where several other water users share this resource.

5. Coordinate with the Town of Truckee SOI

LAFCo adopted the SOI for the Town of Truckee on December 16, 2010 via Resolution No. 10-05 as shown in Figure A17-1 (below). LAFCo anticipates updating the SOI for Truckee within the next several years.

Discussion of Options

1. Retain the Existing Time Horizons for the Near-term Sphere and the Long-term Sphere

If Nevada LAFCo determines that the existing government structure is appropriate to provide water services, then the existing Sphere should be retained. This option would retain the Near-term and Long-term areas within its Sphere as well as retaining the Areas of Interest designation for lands in Nevada and Placer counties. Note, however, the current Near-term Sphere was adopted in 2013 and the 5-year threshold was reached in 2018.

2. Re-Designate the Time Horizons for the Near-term Sphere and the Long-term Sphere

The 2013 Truckee Public Utility District Sphere of Influence Plan identified a Near-term Sphere and a Long-term Sphere. The 2013 Near-term Sphere identified nine areas to be placed into the 5-year Near-term Sphere time frame (starting in 2013 and continuing into the year 2018). Since the SOI was approved in 2013, several annexations occurred for those areas originally numbered 2, 3, 4, and 5 in Figure A17-1 (next page) and as approved by Placer LAFCo’s Resolution No. 2012-02 which allowed the annexation of 62 acres into the PUD boundary for purposes of water service, including 28 parcels for water service only, and eight parcels for both water and electrical service. For additional details, please refer to Table 4-3 entitled “Truckee Donner Public Utility District Annexations (2002-2018)”.

An additional consideration with this option, is the slower rate of development in the Truckee area than originally anticipated in the Town’s General Plan. This means that areas originally thought to be appropriate for future annexation in the near-term, have not yet been subject to planning and development application requests.

The 2013 Long-term Sphere identified three water service areas to be placed into a time frame extending through a 20-year time period (starting upon approval in 2013 and continuing to the year 2033). Generally, the long-term SOI land areas are largely undeveloped but have land use designations that provide for development and are

adjacent to the Town of Truckee (with the exception of the Hobart Mills site, an approved industrial project).

Under this potential option, LAFCo would consider re-designating the time horizon for the Near-term Sphere through 2024 (assuming a five-year time frame with estimated approval in the year 2019) for the existing 449-acre area. The Long-term Sphere timeframe would extend to 2039 (assuming a twenty-year time frame with estimated approval in the year 2019) for the 1,395-acre area.

3. Merge the Near-term and Long-term Time Horizons

Under this option, both existing time horizons would be merged into a single time horizon that would run until 2039. This would emphasize one single 20-year time horizon. It would treat all SOI areas equally.

4. Add Groundwater Basin Collaboration Area into the Area of Interest

An Area of Interest is “a geographic area beyond the Sphere of Influence in which land use decisions or other government actions of one local agency impact directly or indirectly upon another local agency.” Since the TDPUD shares the Martis Valley Groundwater Basin with other water users, actions taken by those other water users may impact TDPUD’s water supply. The Martis Valley Groundwater Basin underlies 36,357 acres in the eastern portion of Nevada and Placer Counties.

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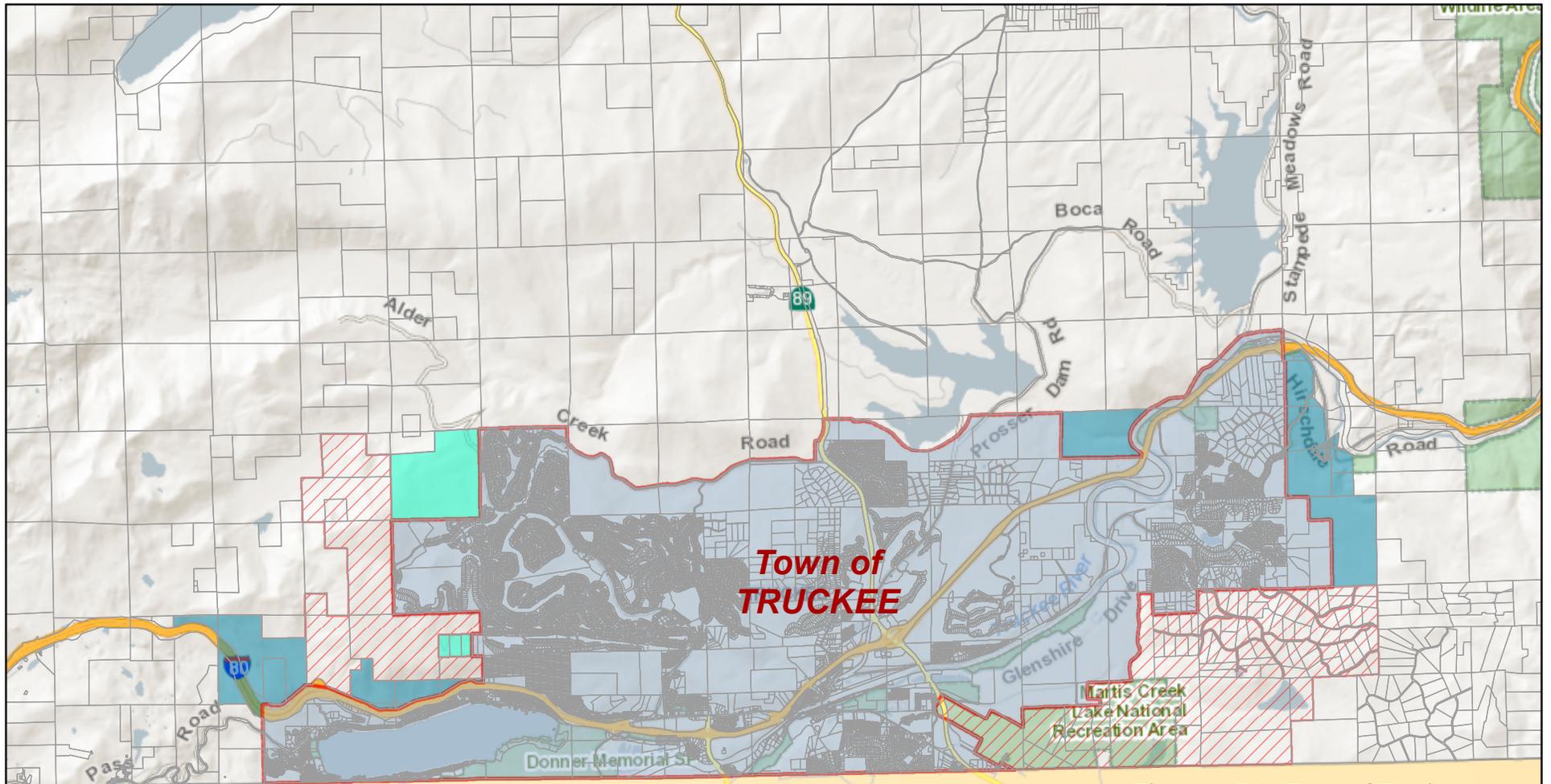


Figure A17-1: Town of Truckee

Town Boundaries

 TRUCKEE

Town Sphere of Influence

 AREA OF INTEREST

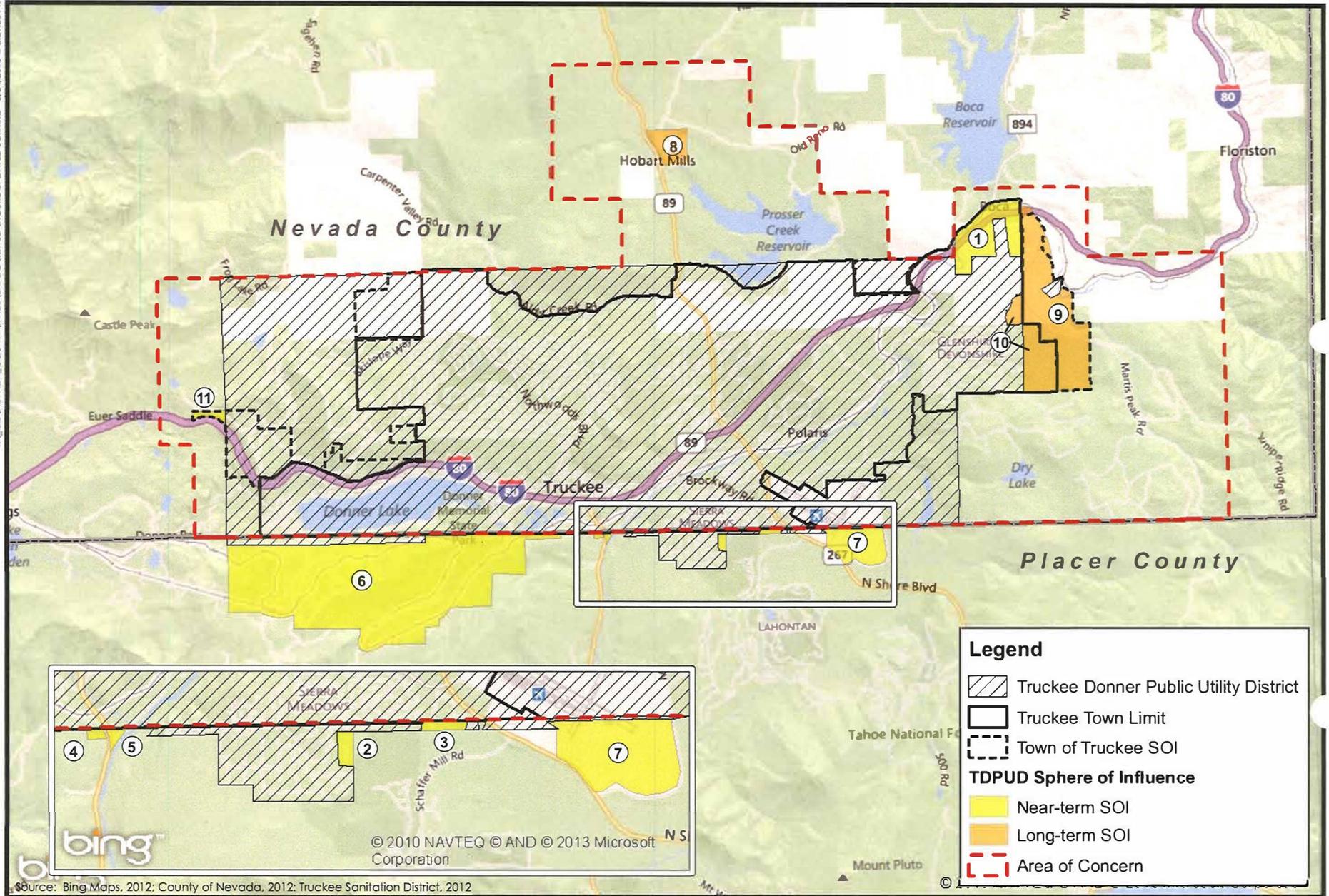
 LONG-TERM

 NEAR-TERM

GIS Data Courtesy of Nevada County. Every reasonable effort has been made to assure the accuracy of the maps and data provided; nevertheless, some information may not be accurate. The County of Nevada assumes no responsibility arising from use of this information.

Town of Truckee
Sphere of Influence
Adopted by Nevada LAFCo

~~~~~  
December 16, 2010  
Resolution 10-05



Note: Areas #2 and 3, shown in yellow above were approved by Placer LAFCo for annexation into the TDPUD in 2012.

**Figure A17-2**  
LAFCo 2013 Adopted Sphere of Influence  
**PMC**

When LAFCo next updates the SOI for TDPUD it may wish to consider extending TDPUD’s Area of Interest to the south to encompass that portion of the Martis Valley Groundwater Basin located in Placer County, which is shared with the Northstar Community Services District, Placer County, and the Placer County Water Agency. Consultation with Placer LAFCO would be needed before further study of this option. Other water users, such as those listed in Table 4-16 entitled “Groundwater Pumping in the Martis Valley Groundwater Basin” could also influence water withdrawals

**Martis Valley Groundwater Basin shown in purple**

from the Basin. Development proposals, such as those included in the Martis Valley West Parcel Specific Plan, could influence the withdrawal of water from the Basin. Please note that there is a total of 294 wells in the Basin; however only a portion of these wells are located in Placer County as shown in Figure 4-12. The Martis Valley Groundwater Basin is a natural resource that is shared with multiple water users and management of this resource must be coordinated. TDPUD has actively collaborated with the Northstar CSD and other Basin users. The TDPUD Area of Interest could be considered for potential future expansion to acknowledge that the actions of other agencies could impact the TDPUD water supply and TDPUD’s actions could impact the water supply of the Northstar CSD and other water users.



5. Coordinate with the Town of Truckee SOI

The Town of Truckee is now starting a two- to three-year planning process to update the 2025 General Plan<sup>1</sup> into a 2040 General Plan. As the Town moves to update its General Plan, it is possible that a CEQA document will be prepared as a part of these planning processes where impacts to water supply, treatment, and distribution services will be

<sup>1</sup> The Town of Truckee 2025 General Plan was adopted in November of 2006 and updated in 2009. The Housing Element of the General Plan updated in 2015. The 2006 update to the General Plan was the first since the Town’s incorporation in 1993 and subsequent adoption of the first General Plan in 1996.

analyzed. This type of analysis could be useful when considering a SOI update for TDPUD. Truckee also plans to update its Downtown Specific Plan. LAFCo may wish to consider the Town’s sphere and potentially changing land-use designations prior to updating the SOI for TDPUD. This would allow the Town and TDPUD to coordinate long-term service and facility capacity. Coordination with the Town of Truckee would help ensure that water facilities are correlated with the Town’s infill development and newly developing areas. If the Town does in fact adopt a 2040 General Plan, that General Plan should be consistent with the TDPUD Long-term Sphere timeframe to 2039.

## Next Steps

The Commission may wish to consider the above options and consult with TDPUD. When LAFCo is ready to consider an update to the TDPUD SOI, it may wish to analyze the following topics in further detail:

- Services Provided
- Present and planned land uses in the area
- Potential effects on agricultural and open-space lands
- Present and probable need for public facilities and services in the area related to water services
- Opportunity for infill development rather than SOI expansion
- Present capacity of public facilities and adequacy of public services related to water services
- The existence of any social or economic communities of interest in the area
- The present and probable need for water, sewer and structural fire protection of any DUC within the existing SOI
- Effects on other agencies, including water usage in the Martis Valley Groundwater Basin and Placer County
- Consultation to discuss the various options with Placer LAFCO.
- Provision of extra-territorial services
- Potential for consolidations or other reorganizations when boundaries divide communities
- Location of facilities, infrastructure and natural features
- Willingness to serve
- Potential environmental impacts

##

# Appendix 18



## Water: Radon

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## Basic Information about Radon in Drinking Water

- [What is radon?](#)
- [Why is radon in drinking water a health concern?](#)
- [Is there radon in my water?](#)
- [What levels of radon in water should I be concerned about?](#)
- [How do I test for radon in drinking water and how do I get rid of it?](#)
- [I receive water from a public water supplier. How will EPA's proposed regulation affect me?](#)
- [How do I get more information about radon?](#)

### What is radon?

Radon is a gas that has no color, odor, or taste and comes from the natural radioactive breakdown of uranium in the ground. You can be exposed to radon by two main sources:

1. radon in the air in your home (frequently called "radon in indoor air") and
2. radon in drinking water.

Radon can get into the air you breathe and into the water you drink. Radon is also found in small amounts in outdoor air.

Most of the radon in indoor air comes from soil underneath the home. As uranium breaks down, radon gas forms and seeps into the house. Radon from soil can get into any type of building - homes, offices, and schools - and build up to high levels in the air inside the building.

Radon gas can also dissolve and accumulate in water from underground sources (called ground water), such as wells. When water that contains radon is used in the home for showering, washing dishes, and cooking, radon gas escapes from the water and goes into the air. It is similar to carbonated soda drinks where carbon dioxide is dissolved in the soda and is released when you open the bottle. Some radon also stays in the water.

Radon is not a concern in water that comes from lakes, rivers, and reservoirs (called surface water), because the radon is released into the air before it ever arrives at your tap.

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### Why is radon in drinking water a health concern?

Breathing radon in indoor air can cause lung cancer. Radon gas decays into radioactive particles that can get trapped in your lungs when you breathe it. As they break down further, these particles release small bursts of energy. This can damage lung tissue and increase your chances of developing lung cancer over the course of your lifetime. People who smoke have an even greater risk. Not everyone exposed to high levels of radon will develop lung cancer. However, radon in indoor air is the second leading cause of lung cancer. About 20,000 deaths a year in the U.S. are caused by breathing radon in indoor air.

Only about 1-2 percent of radon in the air comes from drinking water. However breathing radon increases the risk of lung cancer over the course of your lifetime. Some radon stays in the water; drinking water containing radon also presents a risk of developing internal organ cancers, primarily stomach cancer. However this risk is smaller than the risk of developing lung cancer from radon released to air from tap water.

Based on a National Academy of Science report, EPA estimates that radon in drinking water causes about 168 cancer deaths per year: 89% from lung cancer caused by breathing radon released to the indoor air from water and 11% from stomach cancer caused by consuming water containing radon.

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### Is there radon in my water?

Not all drinking water contains radon. If your drinking water comes from a surface water source, such as a river, lake, or reservoir, most radon that might be in the water will be released into the air before reaching your water supplier or home. Radon is only a concern if your drinking water comes from underground, such as a well that pumps water from an aquifer, though not all water from underground sources contains radon.

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### What levels of radon in water should I be concerned about?

There is currently no federally-enforced drinking water standard for radon. EPA has proposed to regulate radon in drinking water from community water suppliers (water systems that serve 25 or more year-round residents). EPA does not regulate private wells.

EPA has proposed to require community water suppliers to provide water with radon levels no higher than 4,000 pCi/L, which contributes about 0.4 pCi/L of radon to the air in your home. This requirement assumes that the State is also taking action to reduce radon levels in indoor air by developing EPA-approved, enhanced State radon in indoor air programs (called Multimedia Mitigation Programs). This is because most of the radon you breathe comes from soil under the house. This option gives States the flexibility to focus on the greatest problems, by encouraging the public to fix radon in indoor air problems and build homes that keep radon from entering.

Under the proposed regulation, States that choose not to develop enhanced indoor air programs, community water systems in that State will be required to reduce radon levels in drinking water to 300 pCi/L. This amount of radon in water contributes about 0.03 pCi/L of radon to the air in your home. Even if a State does not develop an enhanced indoor air program, water systems may choose to develop their own local indoor radon program and meet a radon standard for drinking water of 4,000 pCi/L.

EPA proposed this option, under the framework specified by the 1996 Amendments to the Safe Drinking Water Act, so that the overall risks from exposure to radon, both through air and water, are reduced.

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### How do I test for radon in drinking water and how do I get rid of it?

- **If you get water from a public water system:** Find out whether your water system gets its water from a surface (river, lake, or reservoir) or a ground water (underground) source.
  - *If the water comes from a surface water source,* most radon that may be in the water will be released to the air before it makes its way to your tap.
  - *If the water comes from a ground water source,* call your water system and ask if they've tested the water for radon.
- **If you have a private well:** EPA recommends testing your drinking water for radon. Call the [Safe Drinking Water Hotline](#) (1-800-426-4791) which can provide phone numbers for your State laboratory certification office. Your State laboratory certification office or State radon office can direct you to laboratories which may be able to test your drinking water for radon.

If testing your private well shows that you have high levels of radon in your drinking water and you are concerned about it, there are some things you can do to improve the water. The most effective treatment you can apply is to remove radon from the water right before it enters your home. This is called point-of-entry treatment. There are two types of point-of-entry devices that remove radon from water:

- Granular activated carbon (GAC) filters (which use activated carbon to remove the radon), and
- Aeration devices (which bubble air through the water and carry radon gas out into the atmosphere through an exhaust fan).

GAC filters tend to cost less than aeration devices, however, radioactivity collects on the filter, which may cause a handling hazard and require special disposal methods for the filter.

For more information on point of use treatment, you should contact the following independent certifying organizations: [EXIT Disclaimer](#)

- [NSF International](#);
- [Water Quality Association](#); or the
- [Underwriter's Laboratory](#).

Additional information and documents about radon in your home can be found below.

- [EPA's Indoor Air Quality Radon site](#)
- [A Citizen's Guide to Radon](#) - This document provides information on how to [test for Radon in your home](#)
- [Consumer's Guide to Radon Reduction \*How to Reduce Radon Levels in Your Home...\*](#)
- [The Home Buyer's and Seller's Guide to Radon](#)

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#### **I receive water from a public water supplier. How will EPA's proposed regulation affect me?**

The proposed radon regulation does not affect public water systems or their customers. EPA must promulgate a final regulation before a federal radon regulation will be enforced. Within three years of promulgating the final regulation, your State may decide to develop a plan for an enhanced radon in indoor air program, which would require your public water supplier to reduce radon levels in the water supply to 4,000 pCi/L. Consumers may be interested in participating in their State's development of this plan, once the radon rule is finalized. If your state or public supplier does not develop an enhanced radon in indoor air program, your public water supplier will be required to reduce radon levels to 300 pCi/L. Under either option, your water bills may increase depending on the size of your water supplier and the radon levels in the drinking water in your area.

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#### **How do I get more information about radon?**

- **Call the Safe Drinking Water Hotline (1-800-426-4791)** - The Safe Drinking Water Hotline can provide you with more information about what EPA is doing to regulate radon in drinking water and refer you to your State drinking water program for information about your community water system.
  - [Safe Drinking Water Hotline Web site](#)
- **Call your Local Water Supplier** - Your local water supplier will have information about your local water supply and can answer any questions you have about your water. Look for the phone number on your water bill or in the government section of your phone book.
- **Call the Radon Hotline (1-866-730-GREEN)** - The Radon Hotline can refer you to your State radon office for more information, and can send you free publications about radon in indoor air.
- **The Indoor Environments Division (IED)**, located within the Office of Radiation and Indoor Air (ORIA), under the Office of Air and Radiation (OAR), is responsible for implementing EPA's Indoor Environments Program, a voluntary (non-regulatory) program to address indoor air pollution.
  - [EPA's Indoor Air Quality Radon site](#).

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Last updated on Monday, June 30, 2014