



Annual Lake Tahoe Stormwater Report for Water Year 2019

October 1, 2018 – September 30, 2019

Washoe County

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Note: [Blue hyperlink text](#) in certain tables may be clicked to access the respective registration pages (LT Info login required).

List of Acronyms

BAT	Best Available Technology
BMP	Best Management Practices
BMP RAM	Best Management Practices Rapid Assessment Methodology
CICU	Commercial, Institutional, Communications, Utilities
EIP	Environmental Improvement Program
FSP	Fine Sediment Particles
GIS	Geographic Information System
ILA	Interlocal Agreement
IMP	Implementers Monitoring Program
LCCP	Lake Clarity Crediting Program
MFR	Multi-family residential
NDEP	Nevada Division of Environmental Protection
NTCD	Nevada Tahoe Conservation District
O&M	Operations and Maintenance
PAC	Project Advisory Committee
PLRM	Pollutant Load Reduction Model
RAM	Rapid Assessment Methodology
Road RAM	Road Rapid Assessment Methodology
RSWMP	Regional Stormwater Monitoring Program
SFR	Single-family residential
SLRP	Stormwater Load Reduction Plan
SWQIC	Storm Water Quality Improvement Committee
TMDL	Total Maximum Daily Load
TN	Total Nitrogen
TP	Total Phosphorus
TRPA	Tahoe Regional Planning Agency
WQIP	Water Quality Improvement Project
WY	Water Year (October 1 – September 30)

1 Background

The purpose of this report is to comply with the LCCP Handbook and Section IV.D of the *Interlocal Agreement to Implement the Lake Tahoe Total Maximum Daily Load*, dated October 2016 between Washoe County and the NDEP. The Lake Tahoe TMDL is a 65-year plan to return Lake Tahoe’s historic annual average deepwater clarity of 97.4 feet, and the ILA documents Washoe County’s commitment to reduce the FSP load in urban stormwater by establishing the second five-year TMDL credit milestone and intermediate annual credit targets. This report summarizes Washoe County’s load reduction activities undertaken during Water Year 2019 (October 1, 2018 through September 30, 2019) in an effort to meet the credit milestones and targets established in the ILA.

2 Accomplishment Summary

To meet the WY2019 intermediate credit target, Washoe County maintained its road registration and six existing BMP registrations. The County also completed one new BMP registration—a combined registration including components of both the Central Incline Village Ph II and East Incline Village Ph I WQIPs. RAMs were completed for all registrations, resulting in the declaration and award of 268 Lake Clarity Credits as shown in Table 1.

Several committees and working groups provide input into the program decisions affecting the implementation of the Lake Tahoe TMDL. In addition to crediting activities, Washoe County participated in the following committees that provided program guidance for the Lake Tahoe TMDL: Parcel BMP Working Group; and the Stormwater Quality Improvement Committee (SWQIC), including two subcommittees—Stormwater Operations & Maintenance (O&M) and the Implementers’ Monitoring Program (IMP). The Stormwater Tools Improvement Phase 3 project was also initiated near the end of WY2019; the project is intended to implement the remaining identified priority improvements and policy updates to the Lake Tahoe Info Stormwater Tools platform for the LCCP. Washoe County was represented on the Project Advisory Committee (PAC) for this project by NTCD.

2.1 Credit Declaration and Award

As identified in the 2016 ILA with NDEP, Washoe County’s intermediate annual credit target for WY2019 is 247 credits (17% reduction in FSP). Per the 2018 Annual Report, Washoe County projected to register 343 credits to meet the credit target based on road operations, completed water quality improvement projects and parcel BMP certifications. Washoe County declared 268 credits and was awarded 268 credits, meeting the WY2019 target (see Table 1). The County is on track to achieve the 2021 milestone (see Section 3.3).

Table 1. Jurisdiction-wide Credits Projected, Declared, and Awarded

Water Year	Annual Credit Target	2021 Five Year Milestone	Lake Clarity Credits Projected ^[a]	Lake Clarity Credits Declared	Lake Clarity Credits Awarded
2019 (Oct 2018 – Sep 2019)	247	305	343	268	268

[a] Projected credits are based on WY2018 Annual Report total credits anticipated to be registered during WY2019.

2.2 Progress Toward 2019 Target

Washoe County worked diligently with NTCDC (who performed the PLRM modeling and RAMs) and NDEP to declare 268 credits for WY2019 and surpassed the annual credit target of 247 credits. The County maintained its existing nine registrations and added one new treatment BMP registration (Central Incline Village Phase II and East Incline Village Phase I BMP). Washoe County is on track to meet the 2021 milestone.

Road Operations Implementation Summary

Washoe County's WY2017 Road Registration includes 69 potential credits per year with a five-year credit schedule through WY2021, representing a network of 7.0 miles of Priority 1 (road class) roadway with an Expected Condition Score of 3.4 for all roads within this class.

Washoe County completed four Road RAM inspections for WY2019, in accordance with LCCP. The inspections were conducted in November of 2018, and in April, May and September of 2019. Washoe County's roads crews worked to maintain optimal road conditions throughout the year, and subsequently received inspection scores of 5.0 (Fall/Winter), 3.6 (Spring), and 4.9 (Summer), with an average annual Road RAM score of 4.1. Thus, Washoe County achieved and surpassed its expected road condition score (3.4) and was awarded 69 credits by NDEP on November 19, 2019.

Table 2. Potential, Declared, and Awarded Credits from Road Operations

Road Registration Name	Primary Water Quality Improvement Actions	Declaration Date	Annual Credit Potential ^[a]	Credits Declared	Credits Awarded
Washoe County Road Registration- Water Year 2017-2021	Road Operations & Maintenance	10/2/2019	69	69	69
TOTAL			69	69	69

[a] Credit potential is based on verified registrations in LT Info.

BMP Implementation Summary

Washoe County has completed many WQIPs in the Lake Tahoe basin since the 2004 start date for TMDL compliance; due to the high rate of parcel BMP implementation in Washoe County, both parcel BMP and treatment BMP load reductions are being registered as pollutant controls. During WY2019, Washoe County registered one new BMP registration, as shown in Table 3.

Washoe County's new registration, Central Incline Village Phase II and East Incline Village Phase I BMP, was established as of January 1, 2019. The pollutant controls associated with this registration were in place before October 1, 2018; however, the parcel BMP verifications for the registration were not established until January 14, 2019. As a result, Washoe County took a deduction in potential credits for the establishment year, declaring 84% of the full credit potential. Additionally, the misalignment of the PLRM GIS and TRPA parcel landuse types creating incorrect parcel BMP percentages with the Fairview/Fairway Ph III WQIP Rosewood Creek BMP registration resulted in only being able to declare 4 of 17 potential credits. Otherwise, Washoe County completed all required Road and BMP inspections on schedule to be eligible for all remaining expected credits.

During summer 2019, NTC D performed BMP RAM for registered Key and Essential treatment BMPs to meet the annual BMP RAM requirements for registered treatment BMPs and inform Washoe County of maintenance needs. Washoe County’s roads crews performed the identified maintenance, including spot cleaning of conveyance features and treatment features (basins and Jellyfish), maintenance of staff gauges, and stabilization of erosion caused by summer thunderstorms and winter snowmelt. Additionally, Washoe County Roads Department purchased a new tractor truck for the Incline Village area. Because the unit is new and highly efficient, it allowed County roads crews to clean virtually all stormwater infrastructure in the Incline Village area in WY2019.

Table 3. Potential, Declared, and Awarded Credits from BMP Implementations

Registration	Primary Water Quality Improvement Actions	Declaration Date	Annual Credit Potential ^[a]	Credits Declared	Credits Awarded
Fairview/Fairway Ph III WQIP Upper Deer Creek	Stormwater Treatment BMPs, Parcel BMPs	10/02/2019	37	37	37
Fairview/Fairway Ph III WQIP Rosewood Creek	Stormwater Treatment BMPs, Parcel BMPs	10/09/2019	17	4 ^[b]	4
Central Incline Village Phase I WQIP	Stormwater Treatment BMPs, Parcel BMPs	10/02/2019	36	36	36
C07 Parcel BMP	Parcel BMPs	10/02/2019	12	12	12
E01 Parcel BMP	Parcel BMPs	10/02/2019	3	3	3
G01 Parcel BMP	Parcel BMPs	10/02/2019	2	2	2
Central Incline Village Phase II BMP	Stormwater Treatment BMPs, Parcel BMPs	10/02/2019	14	14	14
Diamond Peak (WC68) Parcel BMP	Parcel BMPs	10/02/2019	25	25	25
Central Incline Village Phase II and East Incline Village Phase I BMP	Stormwater Treatment BMPs, Parcel BMPs	10/02/2019	78	66 ^[c]	66
TOTAL			224	199	199

[a] Credit potential is based on verified registrations in LT Info.

[b] Only 4 credits declared for WY19 due to issues with incorrect parcel BMP percentages.

[c] This registration has an establishment date of January 1, 2019; therefore, the Establishment Year Credit Potential is 84%.

3 Stormwater Load Reduction Plan

3.1 Description and Timeline of Controls to be Implemented

In accordance with the 2016 ILA, Washoe County must register 305 credits—or 21% load reduction—in order to meet the 2021 Pollutant Load Reduction Milestone for FSP. To meet the milestone, Washoe County plans to maintain the registrations listed in Table 4 and register the catchments listed in Table 5 and Table 6, according to the timelines presented (see Figure 1). Pollutant controls proposed for registration include all three load reduction categories: road operations, parcel BMPs, and treatment BMPs. In addition, Washoe County is currently on track to meet the intermediate credit target for 2024 to satisfy the five-year planning horizon.

3.2 Estimated Credit Potential of Pollutant Controls

Estimated credit potential from FSP load reductions for existing and proposed credit registrations are identified in Table 4 through Table 6. Table 4 presents the active registrations for WY2019 and indicates the annual credit potential for these registrations. For WY2020, Washoe County has 280 potential credits from these registrations.

Table 4. Existing Registrations – Potential Credits

Registration	Pollutant Controls	Establishment Water Year	Expiration Water Year	Annual Credit Potential ^[a]
Existing Registrations				
Fairview/Fairway Ph III WQIP Upper Deer Creek Registration	Stormwater Treatment BMPs, Parcel BMPs	2016	2026	37
Fairview/Fairway Ph III WQIP Rosewood Creek Registration	Stormwater Treatment BMPs, Parcel BMPs	2016	2030	4 ^[b]
Washoe County Road Registration- Water Year 2017-2021	Road Operations & Maintenance	2017	2021	69
Central Incline Village Phase I WQIP Registration	Stormwater Treatment BMPs, Parcel BMPs	2017	2031	36
C07 Parcel BMP Registration	Parcel BMPs	2017	2023	12
E01 Parcel BMP Registration	Parcel BMPs	2017	2031	3
G01 Parcel BMP Registration	Parcel BMPs	2017	2031	2
Central Incline Village Ph II WQIP Registration	Stormwater Treatment BMPs, Parcel BMPs	2018	2032	14
Diamond Peak (WC68) Parcel BMP Registration	Parcel BMPs	2018	2032	25
Central Incline Village Phase II and East Incline Village Phase I BMP	Stormwater Treatment BMPs, Parcel BMPs	2019	2033	78
Potential WY2019 Credits from Existing Registrations				280

[a] Credit potential is based on verified registrations in LT Info.

[b] Registration has annual credit potential of 17 credits; however, Washoe County expects to only declare 4 credits again for WY20 due to issue with incorrect parcel BMP percentages.

Table 5 presents the registrations that are planned for WY2020 and the projected credits available from those registrations. Washoe County anticipates three new registrations in WY2020 with 95 projected credits. The 280 current potential credits plus 95 projected credits should give Washoe County 375 credits for WY2020, which exceeds the water year target of 276 (see Table 6).

Projected Lake Clarity Credits for proposed credit registrations identified in Table 5 and Table 6 have been compiled from the best available sources, including preliminary draft registration work using PLRM v2.1.

The actual load reduction and credit potential are expected to change as each catchment is registered. The updated baseline calculations will be used as the starting point for future registrations and input parameters will be refined to more accurately reflect catchment conditions.

Table 5. Proposed Credit Registration Schedule and Credits for WY2019

Registration ^[a]	Pollutant Controls	Year Implemented	Planned Registration Timeline ^[b]	Projected Credits ^[c]
Proposed WY2020 Registrations				
East Incline Village Phase I WQIP Registration #1	Stormwater Treatment BMPs, Parcel BMPs	2017	February 2020	56
East Incline Village Phase I WQIP Registration #2	Stormwater Treatment BMPs, Parcel BMPs	2017	May 2020	22
East Incline Village Phase I WQIP Registration #3	Stormwater Treatment BMPs, Parcel BMPs	2017	August 2020	17
Projected New WY2020 Credits				95
Potential Existing WY2020 Credits				280
Total Projected WY2020 Credits				375

[a] See Figure 1 for map of proposed registration areas.

[b] For pollutant controls in place at the beginning of the water year, Washoe proposes to be eligible for all expected credits during the first year of the credit schedule.

[c] Projected credits are estimates only. Due to PLRM refinements that occur during registration, the Modeled FSP Load Reductions and Projected Lake Clarity Credits are expected to change upon registration.

3.3 Progress Toward 2021 Milestone

Assessment and Planning

Beyond WY2020, Washoe County plans to continue registering pollutant controls to meet credit targets and milestones for coming years. Table 6 presents the WQIPs/Urban Catchments that Washoe County anticipates registering to achieve the 2021 credit milestone, as well as the 2024 intermediate target. As shown in the table, Washoe County estimates 23 additional credits by 2021 for a total of 398 credits, which exceeds the 2021 milestone of 305 (see Table 6). Washoe County also anticipates registering an additional 62 credits by 2024, for a total of 460 credits to satisfy Washoe County's intermediate credit target for the five-year planning horizon.

To meet the 2021 Milestone, Washoe County plans to maintain the registrations listed in Table 4 and register the catchments listed in Table 5 and Table 6. Registrations include road operations, stormwater treatment BMPs and parcel BMPs. All proposed stormwater treatment BMP registrations reflect existing infrastructure installed after 2004.

In 2017, NTCD conducted a study for Washoe County to determine the potential number of Clarity Credits that could be attained by Washoe County if there was 100% compliance by private parcels with TRPA's Parcel BMP Program. The study indicated that over 50% of the 1,043 credits required of the County by the 65-year milestone could be achieved through private parcel BMPs (NTCD, 2018).

Washoe County is working to identify a sustainable funding source for TMDL implementation (see Section 4.1). Additionally, the County is initiating a project to develop a 20-year Stormwater Master Plan that would include an assessment of existing conditions and resources, development of a TMDL Compliance Plan, and implementation of a Stormwater Asset Management Program. These components not only assist the County in compliance with the ILA and protection of Lake Tahoe water clarity, but also for long-term planning and identification of sustainable funding to support the County's Program.

Table 6. Proposed Future Credit Registration Schedule

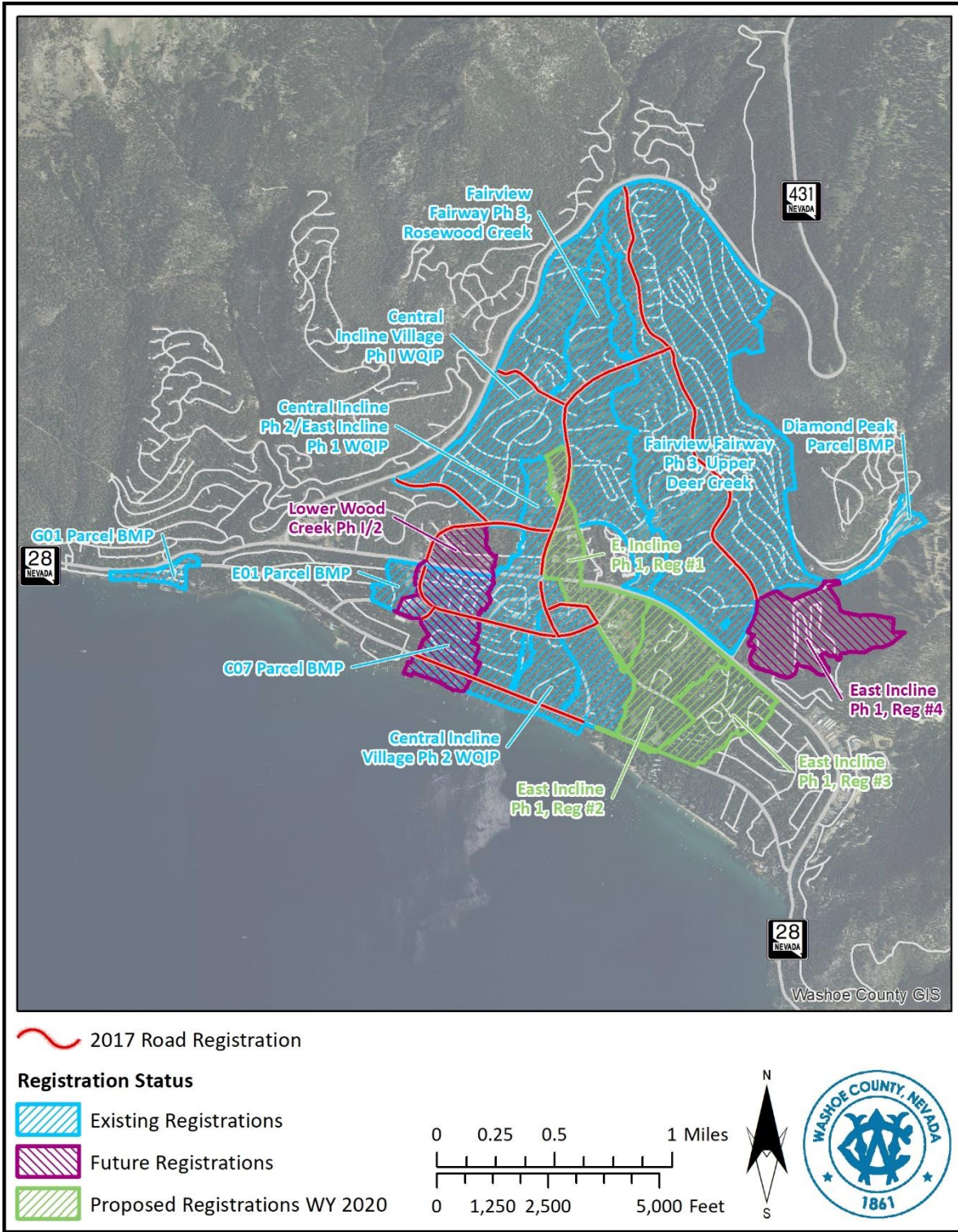
Registration ^[a]	Estimated Credit Potential by WY ^{[b][c]}					Comments
	2020	2021	2022	2023	2024	
Fairview/Fairway Ph III WQIP - Upper Deer Creek	37	37	37	37	37	
Road Registration - WY2017	69	69	-	-	-	Registered @ 3.4; Expires 2021
Fairview/Fairway Ph III WQIP - Rosewood Creek	4	17	17	17	17	Parcel BMP issue expected to be resolved by WY21 for full credit
Central Incline Village Ph I WQIP	36	36	36	36	36	
C07 Parcel BMP	12	12	-	-	-	Expires 2023; will be superseded by Lower Wood Creek
E01 Parcel BMP	3	3	3	3	3	
G01 Parcel BMP	2	2	2	2	2	
Central Incline Village Ph II WQIP	14	14	14	14	14	
Diamond Peak (WC68) Parcel BMP	25	25	25	25	25	
Central Incline Ph II/ East Incline Ph I WQIP	78	78	78	78	78	
East Incline Village Ph I WQIP Registration #1	56	56	56	56	56	
East Incline Village Ph I WQIP Registration #2	22	22	22	22	22	
East Incline Village Ph I WQIP Registration #3	17	17	17	17	17	
East Incline Village Ph I WQIP Registration #4		10	10	10	10	
Lower Wood Creek Ph I WQIP			30	30	30	
Road Registration - WY2022			99	99	99	Expanded Priority 1 Class @ 3.4
Lower Wood Creek Ph II WQIP					14	
Total	375	398	446	446	460	
ILA Credit Target/Milestone ^[d]	276	305	334	363	407	2021 is next Milestone for compliance

[a] See Figure 1 for map of proposed registration areas.

[b] For pollutant controls in place at the beginning of the water year, Washoe proposes to be eligible for all expected credits during the first year of the credit schedule.

[c] Projected credits are estimates only. Due to PLRM refinements that occur during registration, the Modeled FSP Load Reductions and Projected Lake Clarity Credits are expected to change upon registration.

[d] WY2021 is a compliance milestone year (305 credits required). Intervening annual targets are guidelines used for the purpose of demonstrating incremental progress and do not determine compliance.



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Washoe County GIS, 3/10/2020

Figure 1. Catchments Planned for Registration to Meet 2021 Milestone

Update to Intermediate Credit Target Schedule

The credit target schedule in Table 6 presents the current ILA load reduction targets and milestones based on the 2016 Jurisdictional Baseline Report. Washoe County is on track to meet each of these targets and milestones and does not propose any changes to the credit schedule at this time.

4 Fiscal Analysis

4.1 Budget

Expenses related to the implementation of the Lake Tahoe TMDL include program management, infrastructure maintenance, stormwater monitoring and capital improvements. Washoe County continues to refine program cost estimates with ongoing development of a robust asset management system and continuation of the Lake Tahoe Stormwater Program Support Services Project to identify program costs and evaluate feasible long-term funding sources related to the Lake Tahoe TMDL. Project goals include identifying Washoe County's stormwater costs in the Tahoe Basin and identifying options to develop a sustainable funding source. The first project tasks include:

- Defining the Program – This includes developing the understanding of all of Washoe County's Stormwater Program requirements, components, and services.
- Developing a Financial Analysis for the Program – This includes developing annual past and future program expenditures for major program elements; identifying any gaps between previous and future costs; and past revenue sources and their future availability.

These tasks have proven to be a significant undertaking, requiring compilation of a substantial amount of cost data related to all aspects of TMDL implementation. The data is currently being analyzed to develop program costs and funding sources. The County will finalize this portion of the project during WY20 and expects to be able to present the results of the Financial Analysis, with a detailed Program Budget, in the next Annual Report. In the meantime, the County will continue to advance the program through the following tasks:

- Develop Initial Program Branding – This includes developing Program branding and messaging, which includes defining a compelling title, tag line, and answering key questions about the Program.
- Perform Initial Outreach to Key Stakeholders and Potential Partners – This includes facilitating initial outreach to key stakeholders and potential partners, including the facilitation and documentation of meetings with the identified stakeholders. Based on a compilation of all information, the County will determine if there is strong justification and support to move forward with a funding initiative.

In addition to continuing the cost and funding study, Washoe County implemented Asset Essentials in the summer of 2018; this software allows more detailed tracking of maintenance performed related to the implementation of the Lake Tahoe TMDL. During WY19, the County incorporated updated and improved GIS data, which allows Washoe County to better maintain assets and plan capital projects.

4.2 Finance Plan

Historically Washoe County has relied on grant funds for project planning, design and implementation. Washoe County's active grant funded projects (as of October 1, 2018) that support implementation of the Lake Tahoe TMDL are listed in Table 7 and include stormwater quality improvement projects, BAT high-efficiency street sweepers, BAT abrasive spreaders for enhanced road operations, participation in TMDL stormwater monitoring, and credit registration. Washoe County uses TRPA Water Quality Mitigation funds as match for BAT equipment purchases, limited infrastructure maintenance, LCCP implementation, and water quality improvement projects. However, the County recognizes that these funds are not generated rapidly enough to be considered a long-term funding source. Grant administration is ongoing and includes the submittal of quarterly reports related to each project. In addition to administering the current grants, Washoe County continues to pursue available funding and explore partnerships to meet the requirements of the ILA. Washoe County will continue to target grant funding opportunities, such as the Lake Tahoe Restoration Act (once funding is allocated), Nevada Division of State Lands funding, and NDEP's 319(h) program.

Table 7. Active Washoe County Projects (as of Oct 1, 2018)

Project Description	Funders	Total Funding Amount ^[a]	Funding Period	Water Quality Action
Sediment Reduction Project ^[b]	USFS TRPA Mitigation Funds	\$130,600 \$130,600	2011-2018	Road Operations
Washoe County Tahoe Basin Bulk Material Spreaders ^[b]	319(h) Washoe County GF TRPA Mitigation Funds	\$175,000 \$175,300 \$10,000	2013-2018	Road Operations
Washoe County Tahoe Basin High Efficiency Sweeper	319(h) Washoe County GF	\$200,000 \$270,000	2013-2020	Road Operations
East Incline Village Phase I ^[b]	USFS NDSL Tahoe Bonds	\$1,880,000 \$1,880,000	2014-2018	Water Quality Improvement Project
Lake Tahoe Stormwater Program Support Services Project	Washoe County GF	\$94,410	2017-2020	Sustainable Water Quality Funding
LCCP Registration and Implementation Ph II	319(h) TRPA Mitigation Funds Washoe County GF	\$45,911.23 \$45,911.23 \$30,000.00	2018-2019	Continue catchment registrations and RAMs
Lower Wood Creek Phase I	NDSL Tahoe Bonds TRPA Mitigation Funds Washoe County GF	\$2,165,000 \$606,500 \$115,500	2018-2022	Water quality improvement project and parcel BMPs
TRCD Stormwater Compliance Monitoring ^[c]	Partner Jurisdictions Washoe County GF	\$680,000 \$136,000	2019-2021	TMDL required stormwater monitoring

[a] Funding amounts as of September 30, 2019.

[b] Project closed out during WY19.

[c] Project management done by TRCD. Washoe County's contract is for three years, and funding amounts assume partner jurisdiction participation for the same term.

Table 8 identifies projects that need to be implemented to meet credit targets and credit milestone beyond 2023. Like many of the Lake Tahoe basin jurisdictions, Washoe County does not have a reliable and sustainable funding source for the additional infrastructure maintenance, stormwater monitoring and capital project design and construction necessary under the LCCP. As described in Section 4.1, the County is working to develop comprehensive program costs and ultimately identify a feasible long-term approach to fund these and other projects to meet the County's commitments under the TMDL.

Table 8. Proposed Washoe County Projects (as of Oct 1, 2019)

Project Description	Targeted Funding Sources	Estimated Total Cost	Implementation Year	Water Quality Action
LCCP Registration and Implementation Ph III ^[a]	319(h) Grant TRPA Mitigation Funds Washoe County GF	\$93,000	2020-2021	Continue catchment registrations and RAMs
Expand Road Registration	Washoe County	N/A	2022	Road operations
Lower Wood Creek Phase II	NDSL Tahoe Bonds LTRA Reauthorization 319(h) Grant TRPA Mitigation Funds Washoe County GF	\$3,000,000	2023	Water quality improvement project and parcel BMPs
Upper Third & Rosewood Creeks Phase I	NDSL LTRA Reauthorization	\$3,500,000	2024	Water quality improvement project and parcel BMPs
Preston Field ^[a]	Unknown	\$3,000,000	2026	Water quality improvement project and parcel BMPs
Burnt Cedar Creek ^[a]	Unknown	\$3,000,000	2028	Water quality improvement project and parcel BMPs
Upper Wood Creek ^[a]	Unknown	\$2,500,000	2030	Water quality improvement project and parcel BMPs

[a] These projects are not part of Washoe County's 5-year list; therefore, they are not included in the EIP Tracker.

5 Barriers

Five major barriers continue to affect Washoe County's successful implementation of the Lake Clarity Crediting Program; these include funding, decrease in prioritization of stormwater quality in the Tahoe Basin, adaptive management, Road RAM, and time needed to administer the LCCP.

1. Lack of a dedicated and sustainable funding source is anticipated to be Washoe County's largest barrier to meeting the Lake Tahoe TMDL. Funding has been obtained for capital projects, stormwater monitoring, and program management required to meet the 2021 milestone; however, funding gaps exist to accomplish these same tasks for the 2026 milestone. Additionally, the County's operations and maintenance costs continue to increase with added stormwater infrastructure and expanding road operations. Washoe County is actively working to document

total program expenses and explore future funding options. Until a sustainable funding source is established, Washoe County will continue to rely on limited grant opportunities, diminishing TRPA Mitigation funds, and partnering opportunities that result in cost savings.

2. There has been a decrease in federal, state and regional policy prioritization of the importance of stormwater quality impacts in the Lake Tahoe Basin, while other issues affecting the Lake Tahoe Basin, such as forest health, invasive species, biological diversity, climate fluctuations, and TRPA's environmental threshold carrying capacities, have increased in importance. These factors, combined with public observation of the amount of funding previously spent on water quality in the Tahoe Basin, lead to challenges in securing funding for stormwater-related projects and programs. As examples, the Lake Tahoe Restoration Act has provided only very limited funding for watershed projects since 2016, and jurisdictions around the Lake continue to fail at public-supported stormwater funding initiatives.

Although focus and funding have shifted away from stormwater, significant funding is still needed to fully implement the County's Program through the term of the Lake Tahoe TMDL. Dedicated funding is necessary at the programmatic level to ensure incremental progress will be made and to provide better certainty of the return on capital investment through a dedicated maintenance/replacement funding stream.

3. The Lake Tahoe TMDL Program uses adaptive management to incorporate best available science and technical information; a stakeholder review process results in annual findings and possible recommended changes to the TMDL program. As a result, the Stormwater Tools and the LCCP continue to evolve since program inception. While some of the changes are for the better of the program and the tools, others have created uncertainty for the County and its strategies to meet credit targets and milestones; and nearly all changes result in additional work on the part of the County and/or NTCD to update registrations or otherwise comply with the adaptations. This persistent potential for change creates a barrier for the County in developing a long-term strategy to meet credit milestones to comply with the TMDL; it also makes it difficult to plan for staff time and resources to manage and administer the LCCP.
4. Challenges associated with Road RAM inspections is a potential barrier to Washoe County meeting credit targets and milestones. The 2018 LCCP Policy Update Project increased winter/spring RAM requirements, and the impacts of the changes are not yet fully understood. Due to winter road conditions, it is often very difficult to balance weather, roadway safety, road surface conditions, scheduling, and Road RAM scores. Additionally, observations of salt-clouds impacting Road RAM scores during winter months is becoming an increasing concern. It may prove perilous to rely on road operations as a method to meet milestones if scheduling, weather impacts, and/or road conditions prevent Washoe County from declaring credits in any given water year.
5. The time to complete credit registrations has decreased since the beginning of the LCCP; however, the total amount of staff time required to administer the LCCP continues to be a barrier for

Washoe County. Registrations take multiple iterations to finalize; adaptive management changes consume time (see Barrier #3); scheduling RAMs is an ongoing challenge (see Barrier #4); and tracking, planning, reporting, and funding are persistent necessities for the Program. Even with the support of NTCD, the County is only just able to meet deadlines and maintain compliance. Staff time is a limited resource at Washoe County, and any efficiencies and simplifications that can be implemented to the LCCP would be beneficial.

6 Baseline Discrepancies

The baseline load estimate developed in the 2016 Jurisdictional Baseline Report is refined with each credit registration. During the registration process, refinements will be made to the PLRM baseline inputs to better reflect baseline conditions. These changes are documented in each registration memo. NTCD maintains comprehensive baseline load tally as continual refinements are made at the jurisdictional scale. According to that dataset, reflecting all registrations through WY2019 and additional refinements through February 10, 2020, Washoe County’s total baseline load has increased by 1,167 lb-FSP/yr, or approximately 6 credits, which is equivalent to a relative percent different of 0.4% (see Table 9). The magnitude of this baseline change is negligible after four years of registrations and refinements; the adjustments will have no impact on Washoe County’s future credit targets and milestones. Therefore, the County proposes discontinuing this tracking exercise at the end of the current ILA period.

Table 9. Baseline Discrepancies

2016 Jurisdictional Baseline Report Estimated FSP Load (lb/yr)	Registration Baseline Refined FSP Load (lb/yr)	Baseline Difference (lb/yr)	Baseline Difference (credits)	Baseline Relative Percent Difference
290,412	291,579	+1,167	+6	0.4%

References

- 2NDNATURE LLC et. al., 2009. *BMP RAM Technical Document, Lake Tahoe Basin*. Prepared for the U.S. Army Corps of Engineers, Sacramento District. September 2009.
- 2NDNATURE LLC et. al., 2015. *Road Rapid Assessment Methodology (Road RAM) User Manual v2, Tahoe Basin*. Final Document. Prepared for the Nevada Division of Environmental Protection and Lahontan Regional Water Quality Control Board. May 2015.
- 2NDNATURE LLC and NCE, 2015. *Road Operation and Maintenance Practices Effectiveness Testing; Technical Document*. Final Document. Prepared for Nevada Division of Environmental Protection; U.S. Army Corps of Engineers, Sacramento District; and Nevada Tahoe Conservation District. November 2015.
- Interlocal Agreement to Implement the Lake Tahoe Total Maximum Daily Load, 2016. Nevada Division of Environmental Protection and Washoe County. October 2013.
- Lahontan Regional Water Quality Control Board (LRWQCB) and Nevada Division of Environmental Protection (NDEP), 2010. *Final Lake Tahoe Total Maximum Daily Load*. November 2010. http://ndep.nv.gov/bwqp/file/LTTMDL_NDEP_Final.PDF
- Lahontan Water Quality Control Board and Nevada Division of Environmental Protection, 2015. *Lake Clarity Crediting Program Handbook: for Lake Tahoe TMDL Implementation v2.1*. Prepared by Environmental Incentives, LLC. South Lake Tahoe, CA. December 2015.
- Nevada Tahoe Conservation District et. al., 2013. *Nevada Tahoe TMDL Implementing Agencies Stormwater Load Reduction Plans, Baseline and Existing Conditions Report*. Final Document. Prepared for US Environmental Protection Agency. December 2014. Nevada Tahoe Conservation District, Washoe County, 2014. *Stormwater Load Reduction Plan, Washoe County*. Submitted August 16, 2014; Revised December 8, 2014.
- Nevada Tahoe Conservation District, 2016. PLRM V2.1 Recalculated Baseline Pollutant Loads for Washoe County and the Nevada Department of Transportation. September 2016.
- Nevada Tahoe Conservation District, 2018. *Washoe County 100% Parcel BMP Credit Potential*. Submitted December 2018.
- NHC et. al., 2015. *Pollutant Load Reduction Model (PLRM) User's Manual Version 2.1*. Lake Tahoe, CA. May 2015.
- Washoe County, 2019. *Annual Stormwater Report for Water Year 2018, October 1, 2017 – September 30, 2018, Washoe County*. Submitted March 29, 2019; Revised May 3, 2019.