



Annual Lake Tahoe Stormwater Report for Water Year 2021

October 1, 2020– September 30, 2021

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
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 2021 between Washoe County and NDEP. The Lake Tahoe TMDL is a 65-year plan to return Lake Tahoe's historic annual average deep water 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 2021 (October 1, 2020 through September 30, 2021) in an effort to meet the credit milestones and targets established in the ILA.

2 Accomplishment Summary

To meet the WY2021 intermediate credit target, Washoe County maintained its road registration and twelve existing BMP registrations. RAMs were completed for all registrations, resulting in the declaration and award of 389 lake clarity credits 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 LCCP Handbook, PLRM User Manual and Stormwater Tools Reference Manual were updated in WY2021, in which the Nevada Tahoe Conservation District (NTCD) represented Washoe County during the review and comment period.

2.1 Credit Declaration and Award

As identified in the 2016 ILA with NDEP, Washoe County's intermediate annual credit target for WY2021 is 305 credits (21% reduction in FSP). Per the 2020 Annual Report, Washoe County projected to register 389 credits to meet the credit target based on road operations, completed water quality improvement projects and parcel BMP certifications. Due to non-performing private parcel BMPs, Washoe County declared and was awarded 367 credits, less than the 389 potential credits, but still exceeding the WY2021 target (see Table 1). These annual targets are guidelines to show incremental progress toward achieving the five-year milestones that are referenced for compliance. The County achieved 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
2021 (October 2020 – Sep 2021)	305	305	389	367	367

[a] Projected credits are based on WY2020 Annual Report total credits anticipated to be registered and declared during WY2021.

2.2 Progress Toward 2021 Target

Washoe County worked diligently with NTCDC (who performed the PLRM modeling and RAMs) and NDEP to declare 367 credits for WY2021 and surpassed the annual credit target and 2021 five-year milestone of 305 credits. The County maintained twelve of its existing thirteen registrations for full credit. However, due to non-performing parcel BMPs, the Central Incline Village Phase II and East Incline Village Phase I BMP Registration credit declaration was below the potential 78 credits at only 48 credits. Washoe County intends to work with TRPA to bring parcels back into compliance to attain full credits once again. Regardless, Washoe County met the 2021 milestone and is working diligently to meet the next five-year 2026 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 WY2021, in accordance with LCCP. The inspections were conducted in January, February, April, and September of 2021. Washoe County's roads crews worked to maintain optimal road conditions throughout the year, and subsequently received inspection scores of 4.1, 4.0 and 5.0 (January-May), and 5.0 (June-September), with an average annual Road RAM score of 4.5. Thus, Washoe County achieved and surpassed its expected road condition score (3.4) and was awarded 69 credits by NDEP on January 25, 2022.

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	11/1/2021	69	69	69
TOTAL			69	69	69

[a] Expected credits are based on the verified registration in LT Info Stormwater Tools.

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 and treatment BMPs are registered as pollutant controls. During WY2021, Washoe County maintained twelve existing BMP registrations, as shown in Table 3.

Three existing BMP Registrations (Fairview/Fairway Ph III WQIP Upper Deer Creek, Central Incline Village Phase I WQIP, and East Incline Village Phase I Reg 2) were updated due to a misalignment of the PLRM GIS and TRPA parcel land use type layers, creating incorrect parcel BMP percentages. Updated parcel BMP percentages resulted in increased potential credits for Central Incline Village Phase I WQIP to 44 from 36 credits.

Additionally, the Key and Essential BMP types were updated within the Stormwater Tools to better align with approved BMP RAM assessment methods.

During summer 2021, NTCD 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. The Washoe County Roads Department vector truck allowed the crews to clean all pertinent stormwater infrastructure in the Incline Village area in WY2021.

Unfortunately, upon declaration it was discovered the parcel BMPs for the Central Incline Village Phase II and East Incline Village Phase I BMP Registration were deemed non-performing according to the Stormwater Tools. Washoe County and NTCD worked with NDEP to determine an acceptable credit declaration based on performance of treatment BMPs within the registration. The registration declared 48 credits as opposed to its potential 78 credits. Washoe County will coordinate with TRPA to bring the parcels back into compliance for WY2022 or the registration will be updated with reduced parcel BMP percentages, resulting in reduced potential credits.

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	1/4/2022	37	37	37
Fairview/Fairway Ph III WQIP Rosewood Creek	Stormwater Treatment BMPs, Parcel BMPs	1/5/2022	14	14	14
Central Incline Village Phase I WQIP	Stormwater Treatment BMPs, Parcel BMPs	1/4/2022	44 ^(b)	44	44
C07 Parcel BMP	Parcel BMPs	1/4/2022	12	12	12
E01 Parcel BMP	Parcel BMPs	1/4/2022	3	3	3
G01 Parcel BMP	Parcel BMPs	1/4/2022	2	2	2
Diamond Peak (WC68) Parcel BMP	Parcel BMPs	1/4/2022	25	25	25
Central Incline Village Phase II BMP	Stormwater Treatment BMPs, Parcel BMPs	1/4/2022	14	14	14
Central Incline Village Phase I & East Incline Village Phase I	Stormwater Treatment BMPs, Parcel BMPs	1/25/2022	78	48	48
East Incline Village Phase I Reg 1	Stormwater Treatment BMPs, Parcel BMPs	1/4/2022	56	56	56
East Incline Village Phase I Reg 2	Stormwater Treatment BMPs, Parcel BMPs	1/4/2022	22	22	22
East Incline Village Phase I Reg 3	Stormwater Treatment BMPs, Parcel BMPs	1/4/2022	21	21	21
TOTAL			328	298	298

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

[b] Potential credits have changed since WY2020 due to changes to the LT Info Stormwater Tools Parcel BMP tool and subsequent registration updates.

3 Stormwater Load Reduction Plan

3.1 Description and Timeline of Controls to be Implemented

In accordance with the 2016 ILA, Washoe County must attain 305 credits—or 21% load reduction—in order to meet the 2021 Pollutant Load Reduction Milestone for FSP. Washoe County met and exceeded the 2021 milestone by maintaining the registrations listed in Table 4. To meet the next Pollutant Load Reduction Milestone for FSP, Washoe County must register and maintain 496 credits or a 34% load reduction by 2026 according to the 2022 ILA. Table 5, Table 6, and Figure 1 show the proposed registrations and timeline for WY2022, along with intermittent years through WY2026. Pollutant controls proposed for registration include all three load reduction categories: road operations, parcel BMPs, and treatment BMPs.

3.2 Estimated Credit Potential of Pollutant Controls

Estimated credit potential for existing and proposed registrations are identified in Table 4 through Table 6. Table 4 presents the active registrations for WY2021 and indicates the annual credit potential for these

registrations. For WY2022, Washoe County has 328 potential credits from these registrations due to the existing Washoe County Road Registration Water Year 2017-2021 expiring after WY2021.

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	14
Washoe County Road Registration- Water Year 2017-2021	Road Operations & Maintenance	2017	2021 ^[c]	69
Central Incline Village Phase I WQIP Registration	Stormwater Treatment BMPs, Parcel BMPs	2017	2031	44 ^[b]
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 Registration	Stormwater Treatment BMPs, Parcel BMPs	2019	2033	78
East Incline Village Phase I Reg 1 BMP Registration	Stormwater Treatment BMPs, Parcel BMPs	2020	2034	56
East Incline Village Phase I Reg 2 BMP Registration	Stormwater Treatment BMPs, Parcel BMPs	2020	2034	22
East Incline Village Phase I Reg 3 BMP Registration	Stormwater Treatment BMPs, Parcel BMPs	2020	2034	21
Potential WY2022 Credits from Existing Registrations				397

[a] Potential credits are based on verified registrations in LT Info Stormwater Tools.

[b] Potential credits have changed since WY2020 due to changes to the LT Info Stormwater Tools Parcel BMP tool and subsequent registration updates.

[c] This registration expires in WY2021, so these credits drop out and the expanded WY2022 registration supersedes it in Table 5.

Table 5 presents the registrations that were submitted and approved for the WY2022, and the potential credits available from that registration. Washoe County expanded the existing road registration for WY2022 from 69 to 103 potential credits by adding additional Priority 1 roads at an expected condition

score of 3.4. Pollutant controls will be implemented throughout the water year to attain the increased credit potential. The current 328 registered potential credits plus 103 projected potential credits should give Washoe County 431 credits for WY2022, which exceeds the water year target of 343 (see Table 5).

Table 5. Proposed Credit Registration Schedule and Credits for WY2022

Registration ^[a]	Pollutant Controls	Year Implemented	Planned Registration Timeline	Projected Credits
Proposed WY2022 Registrations				
Washoe County Road Registration Water Year 2022-2026	Road Operations & Maintenance	2022	2026	103
Projected New WY2022 Credits				103
Potential Existing WY2021 Credits				328
Total Projected WY2022 Credits				431

3.3 Progress Toward 2026 Milestone

Assessment and Planning

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 2026 credit milestone, as well as the annual intermittent targets. Washoe County estimates 103 credits in 2022 from the expanded road registration for a total of 431 credits, which exceeds the 2022 target of 343 (see Table 6). Washoe County also anticipates registering an additional 98 credits by 2026, for a total of 517 credits to satisfy Washoe County’s 2026 milestone credit target for the five-year planning horizon.

The Lower Wood Creek (LWC) Phase I and II Water Quality Improvement Projects (WQIPs) anticipated registration is WY2023, assuming Phase II construction wraps up summer 2022, for 39 potential credits. The WQIPs will have installed new conveyance to treatment BMPs including basins and underground perforated pipes designed for infiltration. The East Incline Village Phase I WQIP completed construction in 2017 and the project was split into four (4) different Stormwater (SW) Tools registrations. The East Incline Village Ph I Registration 4 provides minimal potential credits (5), but following maintenance to the basin treatment BMP, Washoe County anticipates registration for WY2024.

The County conducted a 10-year stormwater plan (LCCP Projects and Credits Plan), June 2021, that included an assessment of existing conditions and a long-term TMDL Compliance Plan, to assist the County in compliance with the ILA and to protect Lake Tahoe water clarity. The stormwater planning memo identified Mill Creek: Sweetwater WC60d as a parcel BMP registration for 14 potential credits, as long as the TRPA BMP certification is up-to-date. Additionally, the memo sought to utilize time and budgets wisely by expanding the road registration yet again in 2025 to include the roads within the Upper Third and Rosewood Creeks WQIP as a new road class with an expected condition score of 2.8. Within the same timeline (WY2025 or WY2026), the Upper Third and Rosewood Creeks WQIP will be registered for both parcel and treatment BMPs. This project is listed on the Lake Tahoe Restoration Act list and entered in the Lake Tahoe Info EIP Project Tracker, but funding is not secured, and design has not begun.

Washoe County will continue to plan for the future by adding the Preston Field, Burnt Cedar and Second Creek WQIPs to the LTRA and EIP Project Tracker lists. The potential credits from these projects should not be needed until beyond the 2026 milestone, thus, the projects were not included on Table 6. By maintaining the registrations listed in Table 4 and registering the projects listed in Table 5 and Table 6 Washoe County will meet the 2026 milestone. Registrations include road operations, stormwater treatment BMPs and parcel BMPs. All proposed stormwater treatment BMP registrations reflect infrastructure installed after 2004. Washoe County continues working to identify a sustainable funding source for TMDL implementation (see Section 4.1).

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 estimated to be required of the County for the 65-year milestone could be achieved through parcel BMPs (NTCD, 2018). However, as witnessed in WY2021 with the Central Incline Village Phase II and East Incline Village Phase I BMP Registration, the parcel BMP credits lose optimal value if not maintained, which reduces Washoe County's credit potential and jeopardizes intermittent targets and milestone compliance. Without resources to encourage parcel owners to maintain their treatment BMPs, Washoe County will resort to obtaining parcel BMP credits at a minimum to avoid losing potential credits during declarations. For WY2021, non-performing parcel BMPs in one registration lost Washoe County 30 credits.

Projected Lake Clarity Credits for proposed credit registrations identified in 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 reflect catchment conditions more accurately.

Update to Intermediate Credit Target Schedule

The credit target schedule in Table 6 presents the load reduction targets and milestones established in the updated 2022-2026 ILA. 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.

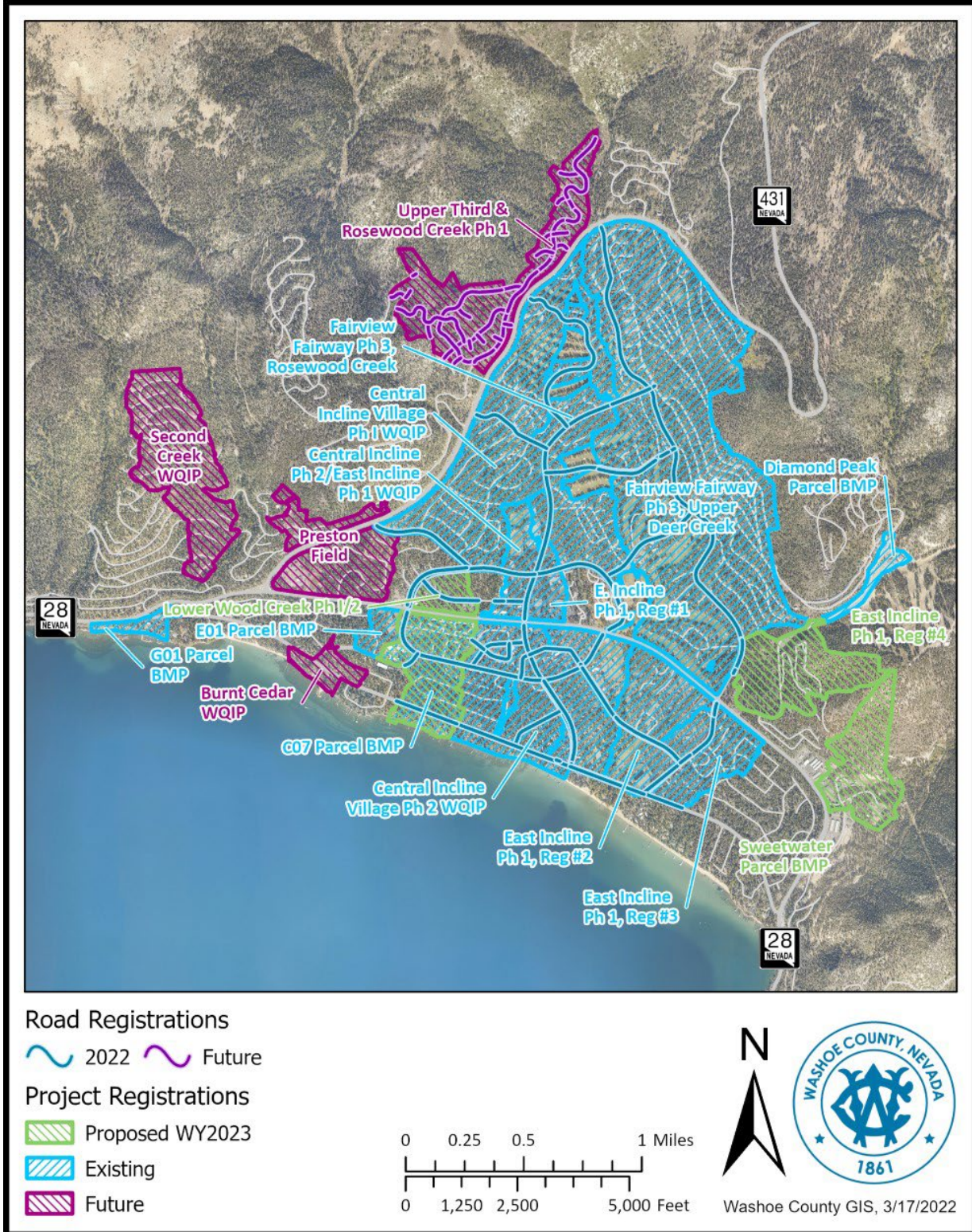
Table 6. Proposed Future Credit Registration Schedule

Registration ^[a]	Estimated Credit Potential by WY ^[b]					Comments
	2022	2023	2024	2025	2026	
Fairview/Fairway Ph III WQIP - Upper Deer Creek	37	37	37	37	37	
Fairview/Fairway Ph III WQIP - Rosewood Creek	14	14	14	14	14	
Central Incline Village Ph I WQIP	44	44	44	44	44	Credits increased from 36 to 44 due to WY21 registration update
C07 Parcel BMP	12	-	-	-	-	Expires 2023; will be superseded by LWC Ph I & II WQIP
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	21	21	21	21	21	
Road Registration - WY2022	103	103	103			Expanded Priority 1 Class @ 3.4
Mill Creek: Sweetwater WC60d		14	14	14	14	
Lower Wood Creek Phase I & II WQIP		39	39	39	39	
East Incline Village Ph I WQIP Registration #4			5	5	5	
Road Registration – WY2025				128	128	New Priority 2 Class @ 2.8
Upper Third & Rosewood Creeks Phase I WQIP				15	15	
Total	431	472	477	517	517	
ILA Credit Target/Milestone ^[c]	343	380	416	452	496	2026 is next Milestone for compliance

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

[b] 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.

[c] WY2026 is a compliance milestone year (496 credits required). Intervening annual targets are guidelines used for the purpose of demonstrating incremental progress and do not determine compliance.



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Figure 1. Catchments Planned for Registration to Meet 2026 Milestone and Beyond

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 for both new infrastructure as well as the increasing maintenance and replacement of existing infrastructure along with the required staff levels to manage the program. 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. Continued data analysis will aid in determining operational and maintenance funding levels necessary for the sustainable implementation of the Program. The County anticipates this work will continue through this calendar year and will provide this data, including a detailed Program budget, when it is complete. 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, 2021) that support implementation of the Lake Tahoe TMDL are listed in Table 7 and include stormwater quality improvement projects, Best Available Technology (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 these funds are not generated rapidly enough to be considered a sustainable long-term funding source and do not address the increasing operational costs nor the future repair and replacement costs. 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 October 1, 2021)

Project Description	Funders	Total Funding Amount ^[a]	Funding Period	Water Quality Action
LCCP Registration and Implementation Ph IV	319(h) TRPA Mitigation Funds	\$44,393 \$44,393	2022-2023	Continue catchment registrations and RAMs
Lower Wood Creek Phase II	NDSL Tahoe Bonds 319(h) TRPA Mitigation Funds Washoe County GF	\$2,021,257 \$153,000 \$592,903 \$80,850	2022-2023	Water quality improvement project and parcel BMPs
TRCD Stormwater Compliance Monitoring ^[b]	Partner Jurisdictions (6) Washoe County GF	\$516,000 \$86,000	2022-2023	TMDL required stormwater monitoring
Streets and Roads Operations & Maintenance	Washoe County Road Enterprise	\$150,000 annually	2009-2045	Operations & Maintenance
Stormwater Treatment Facilities Operations & Maintenance	Washoe County Road Enterprise	\$200,000 annually	2009-2040	Operations & Maintenance

[a] Funding amounts as of October 1, 2021

[b] 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 water quality projects that Washoe County intends to implement to meet credit targets and credit milestones beyond 2024. Like many of the Lake Tahoe basin jurisdictions, Washoe County does not have a reliable and sustainable funding source for the additional infrastructure maintenance and stormwater monitoring necessary under the LCCP, and while federal funds are more competitive to

acquire for capital project design and construction, Washoe County continues to rely on state funding. 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, 2021)

Project Description	Targeted Funding Sources	Estimated Total Cost	Implementation Year	Water Quality Action
Upper Third & Rosewood Creeks Phase I	NDSL LTRA Reauthorization	\$3,500,000	2024	Water quality improvement project and parcel BMPs
Expand Road Registration	Washoe County	N/A	2025	Road Operations
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

Six 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, maintaining private parcel BMP certification, 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 2022 target; 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. As discussed above, Washoe County is actively working to address this barrier, starting with documenting 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, diminished TRPA Mitigation funds, and partnering opportunities that result in cost savings.
2. While stormwater quality impacts remain a high priority for the Lake Tahoe basin, the identification of additional high priority issues, such as forest health, invasive species, biological diversity, climate fluctuation, and TRPA’s environmental threshold carrying capacities, have

diluted federal funding allocations. 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. Yet, 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 the County has adjusted to the changes and the program and tools are more streamlined, last change was 2020, the persistent potential for change creates a challenge 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. Nearly all changes result in additional work on the part of the County and/or NTCD to update registrations or to otherwise comply with the adaptations.
4. Challenges associated with Road RAM inspections is a potential barrier to Washoe County meeting credit targets and milestones. Due to winter road conditions balancing weather, roadway safety, road surface conditions, scheduling, and Road RAM scores will always be a challenge, but observations of salt-clouds impacting Road RAM scores during winter months is becoming an increasing concern. While salt-cloud observations have yet to prevent Washoe County from attaining our expected road condition score, Road RAM was not designed to differentiate between dirt and salt. It may prove harmful 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. Washoe County has been able to attain Lake Clarity credits from parcel BMP certification, which is substantial in Washoe County and amounts to considerable credits. However, to attain maximum credit potential, the BMPs must be maintained and recertified by TRPA, preferably annually, but at least every five years. For WY2021, one of the County's registrations declared thirty less credits than expected due to the non-performing parcel BMPs. While Washoe County and NTCD will coordinate with TRPA to bring the parcels back into compliance for WY2022, the likelihood of TRPA being able to keep pace with recertification for these parcels, along with upcoming parcels that will need recertification, is low due to a lack of a dedicated staff member, meaning time must be spent updating the registration for less potential credits. The County anticipates this happening for additional existing registrations as well, meaning Washoe County could not be quite as on-track to attain the annual intermittent credit targets and 2026 Milestone as previously thought.

6. The entire LCCP process has become more user friendly and streamlined, and every year the registrations, assessments and declarations become more routine; however, the total amount of staff time required to administer the LCCP continues to be a challenge for Washoe County. The County has been able to meet deadlines and maintain compliance, but with additional registrations come additional registration reviews, RAMs, tracking, planning, reporting and funding requirements. Staff time is a limited resource at Washoe County, so continued 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 a comprehensive baseline load tally as continual refinements are made at the jurisdictional scale. According to that dataset, reflecting all registrations through WY2021, Washoe County's total baseline load has increased by 2,000 lb-FSP/yr, or approximately 10 credits, which is equivalent to a relative percent difference of 0.7% (see Table 10).

Table 7. Baseline Discrepancies

Pollutant of Concern	2016 Jurisdictional Baseline Report Estimated	Registration Baseline Refined	Baseline Difference	Baseline Difference (Credits)	Baseline Relative Percent Difference
FSP (lb/yr)	290,412	292,412	+2,000	+10	0.7%
Total Phosphorus (lb/yr)	1,228	1,225	-3		-0.2%
Total Nitrogen (lb/yr)	4,722	4,683	-39		-0.8%

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