2025-2029 Nonpoint Source State Management Plan

(DRAFT)

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Bureau of Water Quality Planning

NEVADA DIVISION OF
ENVIRONMENTAL
PROTECTION

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Executive Summary: Alignment with EPA 2024 319 Guidelines

The Nevada Draft 2025–2029 Nonpoint Source Management Plan demonstrates strong alignment with the seven key components identified in Appendix A of the 2024 EPA §319 Guidelines. First, the Plan articulates clear goals and strategies for restoring and protecting water quality across the state. These are grounded in a vision and mission (Chapter 1.2) and supported by strategic objectives, milestones, and timeframes laid out in Chapters 4 through 6. For example, annual milestones include the completion of one to two watershed-based plans per year, the identification of three new project sites for implementation, and the submission of at least one EPA "success story" annually documenting pollutant load reductions or improved waterbody condition.

Second, the Plan provides a detailed inventory of NPS pollutant sources and categories relevant to Nevada, including erosion, hydrologic modifications, urban development, and legacy mining (Chapter 2.1 and 2.3). Prioritization of watersheds for protection and restoration is addressed through a multi-criteria approach involving stakeholder input, water quality data, and documented environmental factors (Chapters 4.1 and 4.2). Annual milestones to support this prioritization include updates to the restoration prioritization matrix and expanded application of tools such as the EPA Recovery Potential Screening Tool.

Third, the Plan outlines specific management measures to control NPS pollution—ranging from riparian restoration and upland vegetation improvements to urban BMPs. These measures are detailed by pollutant type and watershed and include considerations for hydrologic function and erosion control (Chapters 2.3 and 5). Tangible annual targets may include stabilizing 1,000 feet of streambank, installing 50 acres of vegetative buffers, or conducting five on-site BMP assessments to evaluate maintenance and function.

Fourth, Nevada's approach is deeply rooted in watershed-based planning. It integrates both EPA-approved nine-element and alternative watershed plans and includes procedures for updating existing plans as conditions change (Chapters 1.4 and 4). Annual targets here include ensuring all newly developed plans meet EPA requirements and updating at least one existing plan each year.

Fifth, the Plan emphasizes coordination with state and federal agencies, local governments, conservation districts, and private landowners. Chapter 3 outlines the structure for interagency and stakeholder collaboration. Annual milestones supporting this effort include holding at least two coordination meetings per year with key partners and hosting at least one technical outreach workshop for local stakeholders to advance water quality improvement efforts throughout the State.

Sixth, the administrative structure of the Plan (Chapter 6.1) ensures sound financial management, transparent project selection, and compliance with EPA reporting requirements. It outlines procedures for project solicitation, subawards, and tracking through systems like GRTS. Tractable goals include updating proposal evaluation criteria annually, documenting all project expenditures quarterly, and maintaining 100% compliance with GRTS reporting.

Finally, the Plan commits to evaluating program success using environmental and functional performance measures (Chapter 6.3). It includes a structure for adaptive review and continuous improvement, consistent with the EPA's five-year update requirement (Chapter 1). As part of this

process, annual performance reviews will assess the achievement of short-term milestones and adjust future priorities accordingly.

In summary, the Nevada Draft 2025–2029 Nonpoint Source Management Plan is a well-structured, comprehensive document that effectively meets the expectations set forth in the EPA's 2024 §319 Guidelines. It provides a clear, actionable framework for addressing nonpoint source pollution across diverse watersheds in Nevada. Through measurable goals, targeted strategies, and robust administrative processes, this Plan positions the state to operate a strong and effective NPS program for the duration of the planning period and beyond.

CHAPTER 1: INTRODUCTION

1.1 NPS DEFINED AND PURPOSE OF DOCUMENT

Unlike point source pollution from industrial pipes or sewage treatment plants, NPS pollution comes from many diffuse sources such as water from rain, snowmelt, or irrigation flows over the landscape. The water picks up natural and man-made pollutants from lawns, roads, parking lots and fields and deposits them into rivers, streams, lakes, wetlands and groundwater. Typical NPS pollutants include sediment, fertilizers, salts, bacteria, metals, petroleum products and organic materials.

Addressing NPS pollution in Nevada is challenging due to legacy problems of hydrologic modification, riparian habitat destruction, and flow alteration; as well as contemporary issues related to urban runoff and other land uses. In addition, Nevada is the driest state in the nation and solutions to nonpoint source pollution are often exacerbated by the dry conditions throughout. As the lead agency for addressing nonpoint source pollution in Nevada, the Nevada Division of Environmental Protection (NDEP) coordinates, collaborates and builds key partnerships with a wide variety of local, state and federal agencies, tribes, environmental organizations, educational institutions and private landowners to effectively address these impacts.

The 2025–2029 Nevada Nonpoint Source Management Plan (hereafter referred to as the "Plan") establishes how NDEP will work to address NPS pollution over the next five years. Funding for Nevada's Nonpoint Source Program is provided entirely through federal grants under Section 319(h) of the Clean Water Act. The State of Nevada does not provide dedicated state funding to support the implementation of this program. Accordingly, the activities, goals, and outcomes described in this Plan are contingent upon the continued availability of federal funds at or near current levels. Even with sustained funding, rising implementation costs—due to inflation, labor, and material expenses—may limit the scope and scale of program accomplishments over the five-year planning period.

The Plan formalizes Nevada's approach for protecting and improving water quality and outlines the short- and long-term objectives, milestones, and timeframes that will guide program activities. Reductions in NPS pollution will be accomplished through partnerships and the combined use of technical and financial assistance to plan and implement coordinated water quality improvement projects.

The 2025-2029 Plan is based on the implementation of an adaptive management strategy that includes identifying NPS issues, developing relevant partnerships, collaborating with partners to prioritize watershed improvement actions, implementation of projects, and evaluation of efforts. The adaptive management strategy is one that will be implemented at different levels of organization including at the state-wide programmatic level down to the watershed and local community levels. As such, the Plan incorporates "Key Components of an Effective State Nonpoint Source Management Program" as well as the relevant components of watershed-based plans as identified in the *Nonpoint Source*

Program and Grants Guidelines for States and Territories issued by the U.S. Environmental Protection Agency (EPA).

NDEP takes an integrated approach to nonpoint source pollution management utilizing both internal and external programs to achieve NPS Program goals. These efforts require local involvement, active participation of local, state, tribal, and federal agencies as well as local entities and private landowners. This plan describes how components work together and areas of focus over the next five years to identify, prioritize and address NPS issues. Annual NDEP work plans for CWA Section 319(h) grants provide in-depth details that are specific to that year's tasks, activities and goals.

1.2 VISION, MISSION AND GOAL STATEMENTS

The vision, mission and goal statements provide the basis for implementation of Nevada's NPS Management Program over the next five years and beyond.

VISION

Nevada envisions a future where all water bodies support their beneficial uses, with impaired waters restored, and high-quality waters maintained and protected. Through adaptive and collaborative efforts, Nevada will ensure a sustainable and healthy environment for future generations.

MISSION

To enhance Nevada's water quality by identifying, preventing, and reducing nonpoint source pollution through innovative solutions, strategic partnerships, watershed-based planning, and community/stakeholder engagement.

GOALS

Goal #1: Establish, strengthen, and maintain effective partnerships to achieve the vision of restoring and protecting water quality across Nevada. Leverage shared resources and expertise to achieve the vision of effective water management.

Goal #2: Systematically identify and prioritize impaired watersheds for restoration projects that enhance ecological health and maximize their beneficial uses for communities and ecosystems.

Goal #3: Protect Nevada's high-quality waters by identifying and prioritizing watersheds that require preservation and implementing proactive measures to maintain standards and/or prevent degradation.

Goal #4: Execute on-the-ground projects and actions that lead to quantifiable improvements in water quality and measurables reductions in nonpoint source pollutants.

Note that the Vision and Mission Statements are aspirational and provide overarching guidance to the work described herein**.** To reach the general goals, the Plan outlines specific strategies, actions, and performance measures that will guide implementation over the next five years. These approaches are detailed in **Section 4** (Prioritization and Planning Restoration and Protection Work), **Section 5** (Implementation), and **Section 6** (Milestones and Metrics for Tracking Success). Together, these sections provide a structured and adaptive roadmap for achieving the goals presented above bydefining how watersheds are prioritized, how projects/activities are executed, and how progress will be measured.

1.3 OVERARCHING PRINCIPLES

The Nevada NPS Program operates under several overarching principles to achieve its goals.

- Managing Nevada's water resources for the benefit of people, agriculture, industry, aquatic life and wildlife requires the collective effort of local, state and federal agencies, non-governmental organizations, conservation districts, businesses, and private citizens.

- The NPS Management Program in Nevada is non-prescriptive. Successful NPS control projects are locally led, and effective partnerships are paramount to addressing NPS related water quality problems.

- A variety of tools are available to address NPS related problems- including total maximum daily load (TMDL) implementation plans, watershed-based plans, and straight-to-implementation projects. The appropriate action will be determined on a site-specific basis depending on the nature of the problem and the extent of local commitment for addressing the problem.

- NPS-related water quality impairments are often complex and difficult to address over the short term. Therefore, this Plan focuses on incremental improvements as measured by the creation of structured plans, pollutant load reductions, feet of riverbank stabilized, acres of riparian areas planted or other similar performance measures. Incremental progress leads to improved watershed conditions.

- Water quality improvements cannot be achieved without the support and participation of motivated stakeholders. Establishing relevancy as well as demonstrating actions that can lead to successful water quality outcomes desirable to stakeholders is essential to nonpoint source reductions. Thus, targeted outreach and education to stakeholders helps build a foundation whereby policies and projects that improve and sustain Nevada's limited water resources are locally valued and implemented.

- Leveraging indigenous knowledge presents a valuable opportunity for Nevada to enhance its abilities to reduce NPS pollution and improve water quality. Indigenous communities possess a deep

understanding of local ecosystems, including traditional land management practices that have sustained these environments for generations. By incorporating indigenous knowledge into decision-making processes, insights can be gained for sustainable resource management techniques tailored to the region's unique ecological characteristics.

- Nevada has a diverse landscape with associated diversity in local communities. The NPS program's work will embody the principle of inclusivity which recognizes all communities throughout Nevada will have opportunities to seek support for NPS issues through consultations, technical support, and resource allocations.

- Addressing water quality in context of changing environmental conditions requires a proactive and adaptive approach that considers the interconnectedness between environmental dynamics and water quality. Integrating resilience into land use planning and management practices to mitigate the impacts of extreme weather events, such as floods and droughts, which can exacerbate NPS pollution will be considered in all actions.

1.4 STRATEGIES

The Plan contains a balance between the continuation of effective planning and implementation efforts to achieve load reductions and water quality improvements with efforts to identify and protect high quality waters in healthy watersheds. More specific information and details on targeted activities are provided in the following sections, however the general strategies are listed below and follow the recommended flow for watershed work - namely development of partnerships, prioritization, and planning and implementation (with evaluation).

STRATEGY 1- AGENCY COORDINATION AND LOCAL PARTNERSHIPS

The importance of forming working partnerships and networks for coordinating efforts and resources is paramount to addressing the breadth of water quality issues throughout Nevada. Some of these partnerships- especially with local entities - have been established and continuation of these efforts will be ongoing. However, the plan herein contains some new milestones that the program hopes to achieve as the next five (5) years of water quality work proceeds. Specifically, the program aims to set tangible milestones for coordination and cooperation among NDEP's Integrated Source Water Protection Program, U.S. Bureau of Land Management, U.S. Forest Service, Natural Resources Conservation Service, the Nevada Association of Conservation Districts, and Tribes.

STRATEGY 2: PRIORITIZING AND PLANNING RESTORATION AND PROTECTION WORK

Currently, Nevada has three (3) approved nine-element (9-E) watershed-based plans, and two (2) accepted alternative watershed-based plans. In the next five years, NDEP's NPS program will employ a multi-year approach informed by comprehensive water quality data, environmental co-benefits, stakeholder interest, and leveraged funding to increase the number of EPA-approved watershed-based plans, further refining priority watersheds for both protection and restoration. NDEP will

incorporate tools such as the EPA's Recovery Potential Screening Tool, EPA's Healthy Watersheds Integrated Assessments, Nevada's Integrated 305(b)/303(d) Report, and TMDLs in its multidimensional decision-making process to prioritize and plan future NPS work. NDEP will also leverage internal comprehensive risk and vulnerability assessments to set prioritization criteria based on factors such as the human health considerations, ecological risk, beneficial uses, adequacy of water quality monitoring data, severity of impairments, degree of improvement, and more. NDEP will intervene and facilitate the improvement of existing watershed-based plans to meet the changing environmental conditions where needed, as well as expand the scope of plans to include more protection work per the newly updated 319 NPS Guidelines released in 2024. This strategy aims to enhance existing data and address information gaps, so NDEP has a strong foundation to execute implementation projects that maximize environmental benefits, reduce nonpoint source pollutants, and maintain unimpaired status of its waters.

STRATEGY 3: IMPLEMENTING NPS POLLUTION CONTROL AND PREVENTION MEASURES WITHIN IN PLANS

Together with the CWA 319 NPS grant, NDEP will provide technical and program management support to implement on-the-ground projects targeting the reduction of NPS pollution, guided by the EPA-approved 9-E watershed-based plans or equivalent. Restoration and protection projects will be:

1) shaped through collaborative planning;
2) executed via subawards/contracts;
3) leveraged through technical support from within NDEP or external partners; and
4) tracked and reported via EPA's Grants Record and Tracking System (GRTS).

As part of project implementation, NDEP will support the development and demonstrations of new BMPs as well as regularly evaluate the effectiveness of BMPs. Measurable improvements in water quality will be reported via Success Stories and semiannual progress reports and year-end reports.

CHAPTER 2: NONPOINT SOURCE POLLUTION IN NEVADA

2.1 POLLUTANTS AND IMPAIRMENTS IN NEVADA'S WATERS:

In accordance with the requirements of Sections 303(d)/305(b)/314 of the Clean Water Act, NDEP routinely conducts a comprehensive analysis of water quality data associated with Nevada's surface waters to determine whether state surface water quality standards are being met and designated uses are being supported. Nevada's 2024 Integrated Report was the most current assessment used to inform the 2025-2029 NPS Plan. This and subsequent Integrated Reports are available at https://ndep.nv.gov/water/rivers-streams-lakes/water-quality-standards/303d-305b-water-quality-integrated-report.

Nevada contains approximately 15,549 miles of perennial rivers and streams in Nevada. Of the 705 units assessed for Water Quality in the 2022-2024 integrated report, 33% are presently meeting standards for some or all beneficial uses. Approximately 32% of the assessment units in Nevada have insufficient information to assess any beneficial use attainment and nearly 35% of the assessment units do not meet water quality standards for at least one parameter supporting a beneficial use.

The primary pollutants contributing to water quality impairments in Nevada include phosphorus, temperature, iron, mercury in fish tissue, turbidity, *E. coli*, total dissolved solids (TDS), and total suspended solids (TSS). With the exception of temperature and *E. coli*, most of these pollutants are strongly associated with sediment transport and erosion-related processes. Key sources include streambank and channel incision, sheet and rill erosion from upland areas, sediment-laden runoff from rangelands and agricultural fields, disturbed soils in urban and construction settings, legacy loads from historic mining activities, and naturally erodible geologic formations. Although temperature and *E. coli* impairments are often driven by additional factors—such as loss of riparian vegetation, livestock or wildlife access to streams, and failing septic systems—many of the same best management practices (BMPs) that reduce erosion and improve hydrologic function, such as riparian restoration and upland vegetation management, also contribute to addressing these impairments.

Except for mercury in fish tissue, which is primarily addressed through monitoring and risk communication, this Plan emphasizes management strategies including channel and riparian restoration, upland vegetation improvements, and implementation of BMPs to reduce erosion and runoff. These efforts will be complemented by targeted environmental education and technical assistance to stakeholders that can support long-term nonpoint source pollution prevention and water quality protection activities across Nevada's watersheds.

Addressing mercury in fish tissue is beyond the scope of the NPS Program. However, other programs and agencies are working to minimize the impact of Mercury. For example, the NDEP Bureau of Air Pollution Control issues permits to limit mercury emissions, and the NDEP Bureau of Corrective Actions (BCA) and the U.S. EPA are managing the Carson River Superfund Site.

Table 2.1. Integrated Report Parameters Causing Impairments (2024 DRAFT IR Table)

Parameter	Impairments by parameter	% of Total Impairments
Phosphorus	192	27.6%
Temperature	89	12.8%
Iron	60	8.6%
Mercury in Fish Tissue	40	5.7%
Turbidity	36	5.2%
E. Coli	35	5.0%
Total Dissolved Solids (TDS)	34	4.9%
Total Suspended Solids (TSS)	25	3.6%
pH	21	3.0%
DO	19	2.7%
Arsenic	18	2.6%
Sulfate	15	2.2%
Boron	15	2.2%
Mercury in sediment	13	1.9%
Manganese	12	1.7%
Fluoride	10	1.4%
Copper	10	1.4%
Zinc	8	1.1%
Cadmium	7	1.0%
Nickel	6	0.9%
Nitrogen	6	0.9%
ODOR	4	0.6%
Selenium	3	0.4%
Alkalinity	3	0.4%
Chloride	2	0.3%
Phosphate	2	0.3%
Fecal Coliform	2	0.3%
NITRATE/NITRITE (NITRITE + NITRATE AS N)	2	0.3%
Mercury, total	1	0.1%
Ammonia	1	0.1%
SODIUM ABSORPTION RATIO (SAR)	1	0.1%
Barium	1	0.1%
NON-NATIVE FISH/SHELLFISH/ZOOPLANKTON	1	0.1%
VERTICAL EXTINCTION COEFFICIENT	1	0.1%
Silver	1	0.1%
Total impairments =	696	100%

2.2 CONTAMINANTS OF EMERGING CONCERN

Microplastics:

Over 300 million tons of plastic are produced worldwide annually. It has been known for many years that plastics are polluting marine environments. Microplastics are defined as very small pieces of plastic under 5 millimeters and recent studies confirm their presence throughout Lake Tahoe. Because Lake Tahoe does not receive wastewater discharges, the source is currently thought to be from plastic trash degradation. Studies are continuing to determine the extent of the problem and to identify solutions. This research will help to determine the source and fate of microplastics, the locations where microplastics are concentrating. It is likely that such information will give agencies and policymakers direction on next steps.

Harmful Algal Blooms:

Harmful Algal Blooms (HABs) occur when there is a rapid growth of certain types of algae, typically cyanobacteria (blue-green algae) in fresh water, that can produce toxins that are harmful to animals and humans. These blooms can be exacerbated by warm surface waters with excess nutrients. In recent years, several HABs have occurred in Nevada reservoirs. NDEP has coordinated with Nevada Department of Health and Human Services, Nevada Department of Wildlife and Department of Agriculture to institute appropriate measures to warn the public about potential health effects associated with the HABs. Reduction of nutrient loading and temperature would help reduce the occurrence of HABs in the future.

Per- and Polyfluoroalkyl Substances (PFAS:

NDEP will continually assess emerging nonpoint source pollutants, including per- and polyfluoroalkyl substances (PFAS), by identifying potential diffuse pathways such as stormwater runoff, infiltration from contaminated soils, and land application of biosolids or industrial residuals. In coordination with local partners, watershed groups, and other agencies, NDEP will work to identify PFAS-related risks and incorporate them into watershed characterization and planning efforts, as feasible. As scientific understanding and analytical capabilities evolve, NDEP will evaluate the applicability and performance of structural and non-structural BMPs in limiting PFAS mobilization and transport. Where appropriate, Nevada will support and solicit plans for corrective strategies—such as targeted outreach, site-specific BMP recommendations, and land use guidance—to prevent or reduce PFAS loading to surface and ground waters from nonpoint sources.

2.3 GENERAL NPS POLLUTION SOURCE CATEGORIES AND MITIGATION APPROACHES

The following subcategories of activities, processes, and practices can be associated with nonpoint source of pollutants leading to related water quality impairments in Nevada.

- Hydrologic Modification
- Floodplain Loss
- Urban Land Use and Development
- Agricultural Land Use
- Wildland Fire
- Noxious Weeds/Invasive Species
- Mining and Resource Extraction
- Land Disposal

2.3.1 HYDROLOGIC MODIFICATION

Hydrologic modification is a major source of waterbody impairment in Nevada. Throughout the past 150+ years, rivers and streams throughout the state have been dammed, dredged, straightened, diverted and used for timber transportation. Hydrologic modification alters the natural structure and function of a waterbody. Flow regimes are changed, erosion is increased, riparian habitat is lost, temperatures rise, and water quality is diminished. Many of these impacts are related. For example, straightening a stream channel can increase stream velocities and destroy downstream pool and riffle habitats. As a result of less structure in the stream to retard velocities, downstream velocities may continue to increase and lead to more frequent and severe erosion.

The major pollutant categories associated with Hydrologic modification include nutrients (P), salinity (TDS) and temperature.

Strategies to address NPS pollution caused by hydrologic modifications include:

- Bank stabilization and riparian habitat restoration.
- Channel restoration projects that increase sinuosity and create natural geomorphologic conditions.

The NPS Program has and will continue to work with local, state and federal agencies, conservation districts, private landowners and environmental organizations to implement these types of projects.

2.2.2 FLOODPLAIN LOSS

Floodplains store water during high flow events, allowing it to be slowly released back into the river system, giving time for pollutants such as sediment and nutrients to settle out. Floodplains support important wildlife habitat and recreation. Urban development can encroach on floodplains, replacing them with impervious surfaces. This development may result in confined waterways that can have detrimental impacts. Flows not allowed access to the floodplain can increase channel incision, erosion, and the amount of water and pollutants delivered downstream. Channel incision due to erosion also reduces floodplain filtration and assimilation of pollutants during flooding.

Strategies to address NPS pollution caused by floodplain loss include:

- Land acquisition and/or the placement of easements that limit development of the land to less intense land uses.
- Floodplain and riparian habitat restoration projects.
- Environmental education to promote infrastructures such as wetlands, rain gardens, and permeable pavements, and to inform stakeholders regarding the value of floodplain management to water quality and watershed health.

Implementation of these strategies is ongoing and will continue over the next five years. NDEP will continue to work with partners including Carson Water Subconservancy District, One Truckee River, Las Vegas Wash Coordination Committee and other stakeholders to protect and restore floodplains.

2.2.3 URBAN LAND USE AND DEVELOPMENT

Urban landscapes impact local hydrology in myriad ways by changing the nature and timing of runoff, introducing new pollutants, altering rates of erosion and increasing peak flows and flooding potential. Changing conditions from a vegetated, undisturbed state to an urban setting dominated by impervious surfaces decreases evapotranspiration and interception rates and increases erosion while introducing new pollutants to runoff. Other impacts from developed urban land include decreased infiltration rates and increased storm flows. The increase in impervious surfaces reduces the time of concentration of storm flows and creates higher peak discharges in shorter amounts of time. Larger instream flows erode and incise channels and disconnect streams and rivers from their floodplains. Flood potential increases substantially. As a result, the hydrology of an urban watershed is substantially altered from the natural state and increased management of these impacts is necessary.

Rainfall and dry-overland flows from irrigation that are intercepted by urban development run quickly and directly into streams, dramatically increasing their volume and peak flows. This runoff may contain high concentrations of heavy metals, lawn and garden chemicals, bacteria, silt, petroleum products, and nutrients.

Strategies to address NPS pollution related to urban land use include:

- Establish and support watershed plans to restore water quality in impaired waters and to protect waters threatened by point source and nonpoint source pollution.
- Provide environmental education and outreach programs that inform the public and raise awareness about urban nonpoint source issues and the benefits of using low impact development (LID) practices and other BMPs (e.g. permeable pavements, green roofs, dog lawns, coanda filters etc..)
- Educate decision-makers and developers on proper land use planning and development-including incentivizing the use of LID designs by lowering water use.
- Implement BMPs that minimize or prevent urban NPS.

Implementation of these strategies is ongoing and will continue over the next five years. NDEP will continue to work with partner agencies including Carson Water Subconservancy District, Southern Nevada Water Authority, Reno, Sparks and other urban jurisdictions (cities and counties) to address urban NPS pollution in the major population centers and Lake Tahoe Basin.

2.2.4 AGRICULTURAL LAND USES

Most of the agriculture in Nevada is cattle grazing on public and private lands, irrigated crop production, and some animal feedlot operations. Nevada's agricultural sector is dominated by beef and hay production, with more than half of the ranches in the state producing either sheep or cattle. More than 82% of the state's land area is covered with rangelands. Nevada's desert and high steppe climate, while not conducive to some kinds of agricultural production, is good to produce high-quality alfalfa hay. Hay comprises more than half of the total crop value for the state, and it is largely sold to neighboring California to provide feedstock for dairies, or else shipped around the world. Beyond beef and hay, Nevada's top agricultural commodities include onions, potatoes, and seeds, the last of which Nevada ranks sixth nationally in production.

Under certain conditions, livestock grazing can directly and/or indirectly degrade water quality by increasing erosion and sedimentation, nutrients such as nitrogen and phosphorus, enteric pathogens and water temperature. Pasture and rangeland generally become a source of sediment when livestock remove a large percentage of the vegetative cover for an extended period. The bare soil surface is subject to the erosive actions of water and wind. In-stream trampling and loss of bank stability from soil compaction can accelerate streambank erosion and sedimentation, and presence of livestock can directly add nutrients and pathogens.

The major pollutant categories associated with agricultural practices include sediment, nutrients, pesticides, salinity (TDS), pathogens (Ecoli and fecal coliforms) and temperature.

Strategies to address NPS pollution related to agricultural practices include:

- Implement grazing management practices such as offsite watering facilities, armored stream crossings, and projects that restore and/or protect riparian buffer areas.
- Implement Grazing Allotment Permits and reauthorizations to control nonpoint source pollution impacts associated with livestock grazing.
- Coordinate with agencies and producers of irrigated cropland to develop and implement nutrient management plans that may include conservation tillage, conservation buffers, and irrigation water management.
- Provide environmental education to inform the stakeholders about the strategies and value of reducing nonpoint source pollution for water quality and watershed health.

Implementation of these strategies is ongoing and will continue over the next five years. NDEP will also build more effective working relationships with BLM and the USFS to address nonpoint source pollution related to agriculture and grazing on public lands.

2.2.5 WILDLAND FIRE

Wildfire can be devastating to water quality, wildlife, habitats and local economies. Due to widespread and systematic wildfire suppression over the past 100 years, the typical wildfire today burns faster and hotter than a historical, natural wildfire did. The immediate and long-term impacts can be severe including: total loss of vegetation leading to denuded areas susceptible to increased erosion; soils burned at a temperature that has rendered them hydrophobic, sterilization of seed banks and therefore decreased likelihood of reestablishing native vegetation; and loss of riparian vegetation and habitat. Additionally, fires mobilize nutrients that are flushed into aquatic systems during subsequent storms. Following a fire, often there is an influx of noxious weeds that replace the burned native vegetation resulting in monocultures of cheat grass and other weeds. Hundreds of thousands of acres can burn annually in Nevada. In summary, the major pollutant categories associated with Wildland fires are like those associated with and decreased rangeland or forest function and include sediment, nutrients, salinity (TDS), and temperature.

Strategies to address NPS pollution caused by wildland fires:

- Prevention through biomass strategic biomass reductions.
- Initial erosion protections (fire break restoration, straw/land stabilizations)
- Noxious weed control and reseeding areas with native vegetation.
- Upland revegetation in coordination with Bank stabilization and riparian habitat restoration.

The NPS Program has and will continue to work with local, state and federal agencies, conservation districts, private landowners and environmental organizations to implement these types of projects.

2.2.6 NOXIOUS WEEDS/INVASIVE SPECIES

Noxious weeds and invasive species are non-native introduced species that out-compete native plants and animals and create massive monocultures that have little ecological or economic value. They spread extremely quickly by various vectors and are difficult to control. Noxious weeds/invasive species can be terrestrial or aquatic. Noxious weeds can have deleterious effects on water quality in several ways. Many noxious weeds are annuals, and therefore do not have the ability to hold soil and prevent erosion like native species, both on uplands and in riparian areas. Some noxious weeds, like cheat grass, increase fire hazard and therefore can threaten riparian areas. Other invasive species include aquatic plants and animals, such as the New Zealand mud snail, Quagga mussels, and Eurasian water milfoil, which wreak havoc on surface waters.

The major pollutant categories associated with Noxious and Invasive Species include nutrients (P), salinity (TDs) and total suspended solids (TSS).

Strategies to address NPS pollution caused by noxious weeds and other invasive species include:

- Noxious weed control and reseeding areas with native vegetation.
- Bank stabilization and riparian habitat restoration.
- Grazing management including offsite watering and herding to promote native riparian function.

2.2.7 MINING, RESOURCE EXTRACTION, EXPLORATION, AND DEVELOPMENT

Mining has been and continues to be an integral part of Nevada's history and economy. Currently, there are twenty-four metal mines, twenty-four industrial mineral mines, six oil fields and twelve geothermal power plants in Nevada. Some of the minerals and metals mined include gold, copper, lithium, molybdenum, diatomaceous earth, gypsum, and lime. Nevada regulates, as point sources and through the Bureau of Mining Regulation and Reclamation, many mining activities traditionally considered nonpoint sources. In addition, Nevada's Revised Statutes (NRS 519A.010 - NRS 519A.280) requires reclamation of lands disturbed by mining activities. The scope of these provisions delegates regulatory and enforcement authorities to specific programs within the state and significantly reduces the numbers and types of mining related activities that are considered nonpoint sources. For example, runoff from waste rock dumps is regulated primarily under State Water Pollution Control permits and falls under the NPDES Storm water program. Other mining related activities such as road construction and hydrologic modifications are covered under appropriate NPS categories. Additionally, BCA oversees the Abandoned Mine Lands Program to address discharges and impairments related to past mining activities. Abandoned mines and abandoned leach piles can be non-point sources of inorganic metals. Strategies to address NPS pollution caused by these sources of pollution- that are not regulated and are not associated with a responsible party- include revegetation of mine tailings, construction of passive treatment systems to address acid mine drainage, and stabilizing eroding waste piles to prevent sediment and metal-laden runoff.

Nevada's NPS program has traditionally not engaged in abandoned mine-mitigation efforts. However, in the next 5 year plan the NPS branch seeks to work with BCA in identifying opportunities and prioritizing opportunities that have a high probability of eliminating impairments identified in the 303d listings attributed to metals sourced from this NPS category and in protecting otherwise healthy waters.

2.2.8 LAND DISPOSAL

The Land Disposal source category includes sludge, wastewater, landfills, on-site wastewater systems and hazardous waste subcategories. Sludge and wastewater are regulated by NDEP's Bureau of Water Pollution Control, through Nevada's Water Pollution Control Law, Water Pollution Control Regulations, and Solid Waste Regulations and Management Plan and the Bureau of Sustainable Materials Management. Hazardous waste is regulated by NDEP's Bureau of Sustainable Materials Management through the State's Hazardous Waste Regulations and Management Plan.

CHAPTER 3. GOVERNMENT & TRIBAL COORDINATION

To effectively address NPS pollution throughout the state, NDEP will need to continue and expand its coordination efforts with local, state and federal agencies, tribes, as well as local organizations and stakeholders to reduce NPS pollution and improve water quality.

The need is to identify potential partners that are interested in developing programs to manage NPS pollution. A desired outcome of identifying new partners and developing relationships with them is to implement NPS prevention activities. Another is to build rapport to create a foundation in the watershed by which a WBP or alternative strategy may be developed. It is understood by the NPS Program that the development of a WBP takes a grass-root effort that needs community support from the base up. Therefore, the NPS Program identifies champions in the watershed first, determines mutual goals, and allows the local community to shape the direction of end results.

Accomplishing the goals and objectives established in the Plan requires effective integration of all water quality related programs throughout BWQP, NDEP and other local, state and federal agencies and environmental organizations.

3.1 NDEP COORDINATION

Bureaus and programs across NDEP contribute to water quality protection and assist in achieving the NPS Program goals. The general framework of program integration is shown in Figure 3.1 and is described in detail below.

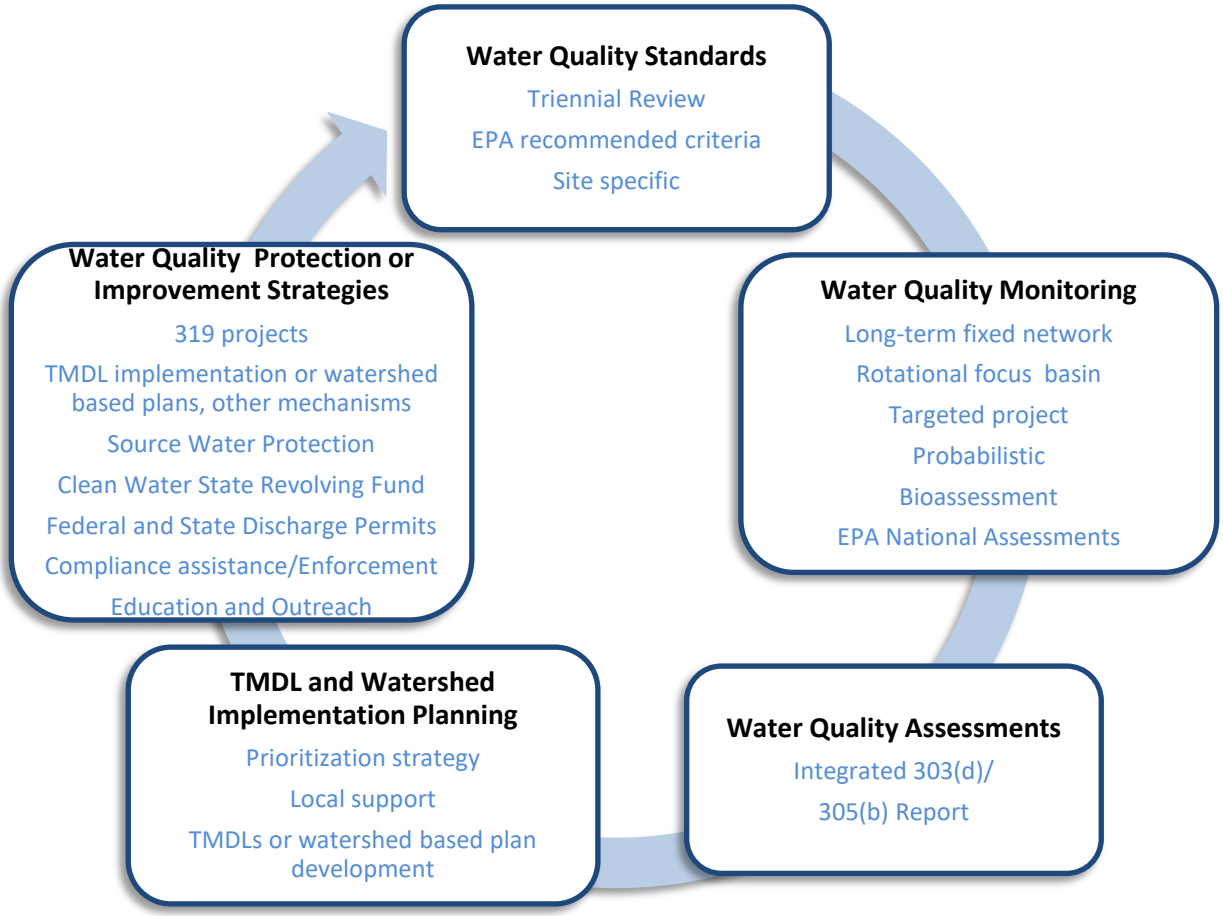

Figure 3.1. NDEP's Water Quality Planning and Management Framework

The Standards Assessment and Monitoring (SAM) Branch activities are key to identifying water quality impairments and documenting any improvements as well (through the development of the Integrated Report and Triennial review). Thus, coordination of SAM activities aids in advancing NPS efforts. Additionally, the SAM branch's work informs the need for TMDL development.

TMDL implementation or WBPs characterize impairment problems, identify pollutant sources and identify projects needed to reduce pollutant loads so that water quality standards can be met. These plans are used to prioritize watershed activities and support the use of CWA Section 319 funding to implement watershed projects. The EPA 2013 Nonpoint Source Program and Grants Guidelines for States and Territories require that 50% of a state's 319 funding allocation must be used for the implementation of EPA approved watershed plans. These watershed plans must contain the nine elements identified in Appendix C of the Guidelines. NDEP will work with partners to identify waters for which TMDL implementation or WBPs will be the most effective way to achieve water quality benefits. In those cases where development of the plans is warranted, NDEP will work to ensure the plans meet the required nine elements.

3.2 FEDERAL AGENCY COORDINATION

Numerous federal agencies have responsibility for water quality protection programs throughout Nevada, including the Bureau of Land Management, Bureau of Reclamation, Fish and Wildlife Service, Forest Service, Park Service, and Natural Resources Conservation Service. The NPS seeks tangible coordination efforts in the next 5 years. Specific coordination efforts and targets are identified in the milestones and timeframe section of the SMP.

3.2.1 BUREAU OF LAND MANAGEMENT (BLM)

The major land management agency in Nevada is the BLM with jurisdiction of about 68% of the total land surface area. BLM is required to comply with provisions of the CWA and is required to meet the water quality standards and other state rules and regulations established by NDEP. All BLM policies and procedures must be consistent with the Federal Land Policy and Management Act of 1976 and all other laws which regulate the use of public lands including the National Environmental Policy Act requirements. BLM administers permits and leases held by ranchers who graze livestock on BLM allotments. Permits and leases generally cover a 10-year period and are renewable if the BLM determines that the terms and conditions of the expiring permit or lease are being met. NDEP and BLM staff meet regularly to discuss resource concerns and potential water quality improvements.

3.2.2 BUREAU OF RECLAMATION (BOR)

The BOR is responsible for several water storage and irrigation projects in Nevada in the Truckee, Carson, Humboldt and Colorado River Basins. BOR works under the Government Performance and Results Act to manage water quantity and quality related to these projects and can provide financial and technical assistance to state and federal agencies for water quality investigations, monitoring and planning, and local irrigation project operation and management improvements. NDEP will work with BOR as necessary to address NPS concerns.

3.2.3 FISH AND WILDLIFE SERVICE (USFWS)

FWS administers the Endangered Species Act (ESA) for plant and animal species. The ESA requires that recommendations for conserving fish and wildlife resources be given full consideration in the decision-making process and allows FWS to address any aspect of a proposed project, including protection of water quality to maintain fish or wildlife resources. The Fish and Wildlife Coordination Act (FWCA) mandates that federal agencies consult with them prior to initiating an action that may have an adverse effect on fish and wildlife resources. FWS also administers a variety of natural resource assistance grants to governmental, public and private organizations, groups and individuals. NDEP NPS program will seek more coordination with FWS on projects where mutual water quality and habitat improvement goals exist. Such coordination will be documented through annual work plan development and reporting.

3.2.4 FOREST SERVICE (USFS)

USFS manages about 10% of the total land surface area in Nevada. The headwaters of many of Nevada's surface waterbodies are located on USFS lands. USFS is required to comply with provisions of the CWA and is required to meet the water quality standards and other state rules and regulations established by NDEP. USFS identified priority watersheds for protection or restoration under the 2011 Watershed Condition Framework and implements several programs to address NPS pollution, which include:

- Burned Area Emergency Response Program to help stabilize soil and protect water quality following a wildfire on USFS lands.
- Healthy Forests and Rangelands–Hazardous Fuels Reduction and Landscape Restoration Program to treat the excessive accumulation of hazardous or unusually flammable fuels.
- Watershed Restoration Program to improve watershed conditions using upland and in-stream treatments.
- Road Maintenance Program to improve travelability and reduce resource damage; and
- Legacy Road and Trail Remediation Initiative for road decommissioning and road and trail repair in environmentally sensitive areas with water quality issues.

In 2009, NDEP entered into a Memorandum of Agreement with the USFS Intermountain Region to increase coordination and collaboration between NDEP and the USFS to prevent, mitigate and control nonpoint source pollution and protect water quality on National Forest System lands in the State of Nevada. NDEP will seek to renew the efforts outlined in that MOU, perhaps using the Shared Stewardship Framework as the means to coordinate joint conservation efforts on public lands moving forward.

3.2.5 NATURAL RESOURCES CONSERVATION SERVICE (NRCS)

NRCS assists landowners in the planning and application of conservation practices to protect soil and water resources. To do so, NRCS provides technical, educational, and financial assistance through a variety of Farm Bill programs including the Environmental Quality Incentive Program (EQIP), Regional Conservation Partnership Program (RCPP), and Agricultural Conservation Easement Program.

EPA and NRCS initiated the National Water Quality Initiative (NWQI) in 2012. The NWQI encourages coordination between 319(h) and Farm Bill programs to address NPS pollution. NDEP has coordinated with NRCS to select sub watersheds to focus efforts in the past. NDEP will continue to coordinate with NRCS to identify project opportunities through other NRCS Farm Bill programs and will participate in the Nevada State Technical Advisory Committee to develop projects and partnerships with tangible outcomes.

3.3 STATE AGENCY COORDINATION AND PARTNERSHIPS

3.3.1 DIVISION OF WATER RESOURCES (NDWR)

The Division of Water Resources protects, manages and enhances the State's water resources for Nevada's citizens through the appropriation and reallocation of public waters. Several efforts within the Division have overlapping interests and actionable plans that intersect with NDEP's interests in reducing NPS pollution. For instance, the State's hazard mitigation plans have actions that lead to connecting waterways with their flood plain to mitigate flood impacts on infrastructure and recognizes NPS issues associated with flood waters reaching critical source areas of contaminants not normally connected to the waterways. These plans and interests overlap with the 319 program's interests as they also have co-benefits to water quality due to NPS pollution reductions. Moreover, planning for and implementing measures for drought resiliency are major efforts within the Division. Drought resiliency and flood plan management strategies and associated best management practices are to be considered in planning efforts for NPS reductions. Thus, NPS program will seek opportunities to work together in planning and in projects having co-benefits.

3.3.2 DIVISION OF NATURAL HERITAGE (NDNH)

Nevada Division of Natural Heritage (NDNH) Wetland Program is responsible for collecting data, stakeholder collaboration, and conservation planning for wetlands throughout the state. Wetlands are crucial aquatic features serving a variety of environmental services including water quality and water quantity regulation, provisioning of wildlife habitat, nutrient cycling, carbon sequestration, and recreation opportunities. Wetlands throughout Nevada (Figure 3.2) have been highly impacted by conversion of land use and land cover- despite the importance of these aquatic features across the landscape. Wetland protection will be one

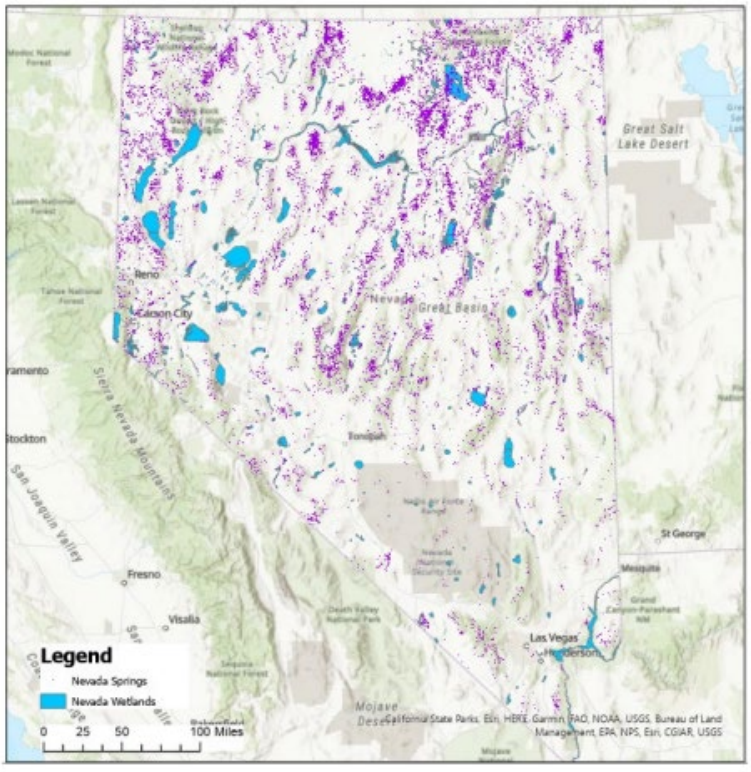

Figure 3.2. Known springs and wetlands in Nevada.
Courtesy of the Springs Stewardship Institute (springs) and Desert Research Institute (wetlands).

of the prioritization criteria considered in both planning and implementation work supported by 319(h) funding. Moreover, NPS program will work with NDNH to prioritize and expand statewide wetland protection and restoration activities. Additionally, NPS seeks to work with NDNH by facilitating coordination with other stakeholders and agencies (federal and state) over the upcoming years.

3.3.3 DIVISION OF STATE LANDS (NDSL)

The Nevada Division of State Lands (NDSL) provides land and land use planning services to the state, its agencies and its people. NDSL administers the Tahoe Bond Acts of 1986 and 1996 which authorized the sale of more than $50 million in bonds for the acquisition of sensitive lands and funding erosion control and stream restoration projects in the Lake Tahoe basin.

Special vehicle license plates to benefit Lake Tahoe are available through the Department of Motor Vehicles. These fees go into a dedicated Lake Tahoe fund, which is administered by NDSL for projects and programs that will preserve or restore the natural environment of Lake Tahoe. These funds are available as grants.

NDEP will participate in technical review of proposed water quality improvement projects seeking funding from NDSL grant programs to ensure consistency with NPS goals and will seek partnering in watershed improvement projects.

3.3.4 DIVISION OF FORESTRY (NDF)

The Division of Forestry (NDF) is charged with protecting 8.7 million acres of non-federal land from fire and serious environmental degradation. NDF provides technical assistance to landowners on forest management and administers a nursery program from which trees are supplies for greenbelts, environmental restoration and other conservation projects. NDF, through the Department of Prisons Conservation Camp Program, supplies crews for a variety of activities including resource conservation and restoration projects. NDEP coordinates with NDF on water quality improvement and habitat restoration projects.

3.3.5 DIVISION OF STATE PARKS (NDSP)

The Nevada Division of State Parks (NDSP) manages, protects, operates and maintains 27 parks within the Nevada State Park System. NDEP staff approached NSP administration to identify state park lands that may benefit from water quality restoration that would result in NPS pollution reduction. The newly acquired Walker State Recreation Area lands that feed drainage from historic, irrigated ranch lands to Walker Lake were identified as an opportunity to collaborate. Walker River State Recreation Area spans 12,000 acres of rangeland along 28 miles of the East Walker River.

3.3.6 CONSERVATION DISTRICT PROGRAM (CDP)

The Conservation District Program (CDP), housed in the Department of Conservation and Natural Resources, provides administrative support to the State Conservation Commission (SCC) and assists the State's 28 local conservation districts in the development and implementation of programs to conserve Nevada's natural resources. The emphasis of CDP is on voluntary compliance and individual technical assistance. Some districts have taken an active role in riparian area management. The NPS Program will seek substantial coordination efforts from the local conservationists to develop planning and implementation efforts (described below in more detail).

3.3.7 DEPARTMENT OF TRANSPORTATION (NDOT)

The Nevada Department of Transportation (NDOT) is charged with assuring an efficient transportation system of roads that provides mobility the public. NDOT is required to implement BMPs designed to control runoff from their road network that minimizes the release of pollutants to surface water and groundwater under an National Pollutant Discharge Elimination System (NPDES) permit from NDEP. NDOT's environmental section ensures that projects comply with state, federal and local environmental regulations. NDOT is active in major wetland creation and enhancement projects to mitigate the effects of highway construction on wetland areas of the state and is a key implementer of the Lake Tahoe TMDL. NDEP coordinates with NDOT on projects related to the control of NPS pollutants from their road systems, especially in the Lake Tahoe Basin.

3.3.8 DEPARTMENT OF WILDLIFE (NDOW)

The Nevada Department of Wildlife (NDOW) was established to preserve, protect, manage and restore the wildlife resources of Nevada. The goals of NDOW are to: 1) maintain all species of the State's wildlife and their habitats for their intrinsic and ecological values as well as their direct and indirect benefits to man, 2) provide for the diversified recreational use of the State's wildlife resource, 3) provide for an economic contribution from the wildlife resources in the best interests of the people consistent with the long-term welfare of these resources, and 4) provide for scientific, educational and aesthetic uses of the State's wildlife resources. NDOW can offer technical, financial, legal and educational assistance in NPS pollution management programs and projects. NDEP coordinates with NDOW where shared mutual goals of water quality improvement and habitat restoration coincide.

3.4 TRIBAL COORDINATION AND PARTNERSHIPS

Twenty-eight Native American Tribes, Bands and Colonies are located within the boundaries of the State of Nevada. These are sovereign entities, many of which implement in-house programs to manage tribal natural resources, including water quality. In 2003, with funding from EPA, NDEP and the Inter-Tribal Council of Nevada established the Tribal Liaison Program to facilitate coordination and cooperation between the State and Tribes in Nevada to address environmental issues. NDEP will continue to work with Tribes through EPA, and the Nevada Inter-Tribal Council Liaison to address water

issues and nonpoint source pollution management. NDEP will continue to pursue projects that facilitate good neighbor practices and will identify waters that cross interstate and tribal boundaries as waters to be given enhanced considerations when considering project and planning prioritization activities.

3.5 LOCAL & NON-GOVERNMENTAL ORGANIZATIONS AND PRIVATE PARTNERS-

The NPS Program has established strong long-term relationships with agencies, organizations, and the private sector. A priority in this Plan is to continue existing successful partnerships for the implementation of water quality improvement projects. In Nevada, locally led watershed efforts with these stakeholders are the key to successful implementation of projects. Where there is local interest, BWQP encourages and supports the development of WBPs or alternative strategies to improve water quality. Through grant funding, NDEP also supports many existing partners to implement local water quality improvement projects. NDEP will continue to build these relationships to accelerate watershed plan development and improvements.

CHAPTER 4. PRIORITIZING AND PLANNING RESTORATION AND PROTECTION WORK

Effective prioritization and planning are fundamental to the success of Nevada's NPS Program. This chapter outlines the approach BWQP will use to prioritize watersheds for protection and restoration over the next five years. The goal is to direct limited resources toward projects within watershed plans such that the projects will yield the greatest water quality benefits, build durable partnerships, and maximize environmental co-benefits.

Watershed plans have been developed and accepted by EPA for the Carson River Watershed, the Las Vegas Wash and the Lake Tahoe Basin. An alternative plan has been conditionally accepted for Truckee River Tributaries from the Nevada state line to Lockwood (just downstream of the Cities of Reno and Sparks). Watershed plans are under development and refinement for the Virgin River and the East Fork of the Walker River (the latter being a focus for some earlier activities for the development of Advanced Restoration Planning efforts) such that these plans fully meet the 9 elements called for in an EPA-accepted WBP.

Table 4.1 Watersheds Assessment Units Numbers in Water Quality Categories (2024)

Watershed	Total # AUs	#AUs Category 1	#AUs Category 2	#AUs Category 3	#AUs Category 4	#AUs Category 5	Watershed-Based Plan
Carson River	61	5	1	22	0	33	CRASP
Colorado River/Las Vegas Wash	52	18	6	12	0	18	CAMP
Truckee River	111	33	5	42	0	29	Conditionally Approved
Virgin River	2	0	0	0	0	2	None
Walker River	28	3	1	10	0	14	None
Snake River	93	12	8	53	0	36	None
Humboldt River	220	47	39	53	0	81	None
Black Rock	43	4	4	18	0	17	None
Great Salt Lake	10	8	1	1	0	0	None
Northwest Region	26	3	0	10	0	9	None

NDEP recognizes the need to update existing plans and expand planning efforts. As previously described, NDEP seeks to substantially increase coordination with local, state and federal agencies to address water quality and watershed health issues throughout the entire state. Continuing implementation efforts within the HUC-8 watersheds that were priorities over the last several years are outlined below (in Section 5). An emphasis over the next five years is to target prioritization and planning on additional watersheds while updating/adaptively managing efforts within existing watersheds covered by accepted WBPs.

4.1 PRIORITIZATION AND PLANNING FOR PROTECTION

Under the updated federal Nonpoint Source Program Guidelines (April 2024), states may now devote resources to proactive watershed protection activities. In alignment with this policy evolution, the Nevada Division of Environmental Protection's Bureau of Water Quality Planning (NDEP-BWQP) will expand its use of watershed-based and alternative planning approaches to protect high-quality waters from future degradation.

Protection efforts will be prioritized using similar informational resources as restoration efforts, including:

- Category 1 waters from Nevada's Integrated Report (unimpaired waters)
- Existing Total Maximum Daily Loads (TMDLs) and implementation plans.
- EPA's RPST
- Reference condition assessments and potential from BWQP's Bioassessment Branch

Priority will also be given to:

- Vulnerable headwaters, wetlands, and riparian corridors (in coordination with the Nevada Division of Natural Heritage)
- Areas facing increasing land use pressure from urbanization, wildfire, mining, or resource development
- Threatened and endangered species habitats
- Regions with potential environmental co-benefits such as groundwater recharge, and wildfire resilience

A renewed focus will be placed on **updating existing WBPs** to explicitly incorporate protection objectives. In areas with existing WBPs, BWQP will assess whether Category 1 waters within those watersheds face identifiable threats and whether updated planning could enhance protection. As part of this process, NDEP will:

- Create benchmark for protection and maintenance goals
- Solicit watershed planning facilitators to help assess and identify
    a) Existing or perceived (and emerging) threats to water quality
    b) Anti-degradation BMPS which maintain high-quality waters
    c) Potential technical and financial partners to engage in protection work

- Provide technical assistance to support updates or expansions of existing plans as appropriate

In **areas without existing WBPs**, NDEP will take a similar approach by:

- Identify high-quality waters using available datasets such as the Nevada Integrated Report, EPA's How's My Waterway listings, the RPS tool and reference site assessments by BWQP's Biological Assessment Monitoring team.
- Create a benchmark for protection
- Solicit planning facilitators from a broad statewide list of stakeholders with demonstrated interest and capacity
- Facilitate the development of new protection-oriented WBPs or alternative plans

In parallel, NDEP's NPS Branch will continuously evaluate opportunities to mitigate emerging or urgent threats to unimpaired waters. Where formal WBPs are not feasible or timely, alternative plans may be developed to guide implementation of near-term protective actions addressing specific NPS concerns (e.g., post-fire runoff risks, land conversion hotspots, etc..).

Through all these efforts the entire list of examples provided by the 319 guidelines are being and will be considered. Specifically:

- Outstanding National Resource Waters or other state-defined categories of high-quality waters (e.g. waters of extraordinary ecological or recreational significance per NRS Antidegradation policy).
- Watersheds currently supporting healthy aquatic ecosystems, as identified in assessments of watershed function and structure (e.g., the EPA's Healthy Watersheds Integrated Assessments).
- Waters and watersheds identified as protection priorities in the CWA Section 305(b)/303(d) integrated report.
- Watersheds or portions of watersheds with unique, valuable, or threatened species or the critical aquatic habitats of these species.
- Waters and watershed areas (including groundwater where appropriate) that serve as source water for a public drinking water supply.
- Healthy waters in watersheds where it complements efforts to restore NPS-impaired waters.
- Waters near geographic areas where rapid land use development is occurring.
- Waters where data trends indicate water quality degradation is occurring.
- Restored waters that require continued water quality assessment and maintenance of BMPs to ensure unimpaired status.
- Watersheds that contribute high nutrient loads to downstream waters.

Partnership development remains central to protection success and the readiness and capacity to proceed with stakeholders ranks high among the factors leading protection efforts. NDEP will continue engaging active collaborators through efforts like the Shared Stewardship Framework and the Nevada

Sagebrush Ecosystem Program, the Conserve Nevada Program and will seek to build additional new partnerships throughout the state.

FIVE-YEAR PROTECTION STRATEGY

Year 1:

- Identify priority protection watersheds using the Integrated Report and reference condition assessments
- Evaluate Category 1 waters in areas with existing WBPs
- Solicit watershed planning facilitators to evaluate threats, stakeholder interest, and implementation readiness
- Initiate updates to WBPs where protection priorities are underrepresented
- For areas lacking WBPs, identify and engage new planning facilitators from the broader stakeholder pool
- Explore development of alternative plans for urgent or emerging NPS threats

Years 2–3:

- Advance the update and development of WBPs or alternative plans with a protection emphasis
- Begin implementation of priority protection projects, including source water protection, riparian corridor conservation, BMP installations, and land use coordination
- Apply Nevada's antidegradation framework to support prioritization and project development
- Continue identifying protection gaps and facilitating plan revisions

Years 4–5:

- Evaluate and adaptively manage protection projects and planning documents
- Monitor effectiveness using both environmental data and implementation metrics
- Identify new areas requiring protection due to emerging pressures or improved data
- Publish NPS Success Stories where measurable protection outcomes are achieved

4.2 PRIORITIZATION AND PLANNING FOR RESTORATION

BWQP will continue to prioritize restoration activities aimed at addressing known water quality impairments across the state. With updated federal guidance enabling expanded planning flexibility, the program will now take a two-pronged approach to restoration planning: (1) updating existing WBPs to maintain their relevance and usefulness, and (2) identifying and engaging new stakeholders to develop plans in areas without any.

In watersheds where WBPs or alternative watershed plans already exist, BWQP will initiate a review to determine whether the plan continues to align with current water quality conditions, implementation feasibility, and restoration priorities. This review will also assess whether new impairments or emerging stressors—such as wildfire or land use change—have surfaced since the plan's original development.

Additionally, BWQP will evaluate the level of stakeholder interest and capacity to support continued or enhanced implementation efforts.

In watersheds without existing plans, BWQP will use the Category 5 waters identified in Nevada's Integrated Report as a starting point to identify restoration opportunities. NDEP/BWQP will apply the EPA's RPST to further evaluate these Category 5 waters and develop a prioritized list of areas with strong potential for restoration success. This list will guide outreach efforts by helping to identify and solicit interest from planning facilitators and stakeholders across the state. Outreach will focus on areas where impairments are potentially impacting local communities but where planning or implementation activity is currently limited or absent. Additionally, BWQP will target watersheds that intersect with emerging issues, such as areas affected by wildfire or those with potential for HABs, recognizing the urgency of addressing these threats through coordinated restoration planning. Priority will be given to stakeholder groups that demonstrate both an interest in, and the capacity for, leading or supporting the development of new watershed-based or alternative plans.

Watershed planning will use all available tools to inform and guide efforts; across all planning and implementation activities, BWQP will continue to leverage resources such as *How's My Waterway*, the EPA RPST, *Model My Watershed*, water quality trend data, and local land use and hydrologic information. In addition, the EPA's Pollutant Load Estimation Tool (PLET) will be used to support planning and project design by estimating pollutant load reductions associated with proposed best management practices. Restoration activities will also be prioritized where they deliver co-benefits such as habitat recovery, carbon sequestration, and wildfire or flood risk mitigation.

Through all these efforts the entire list of examples provided by the 319 guidelines are being and will be considered. Specifically:

- Human health considerations, including contact recreation and/or source water protection for drinking water.
- Ecosystem integrity, including ecological risk and stressors.
- Beneficial uses of the water.
- The value of the watershed or groundwater area to the public.
- The likelihood of achieving demonstrable environmental results (over the short term- days to years or long term- decades).
- The degree of understanding of the causes of impairment and the solutions capable of restoring the water.
- The adequacy of existing water quality monitoring data or future monitoring commitments.
- The degree to which TMDL allocations assigned to point sources depends on achieving NPS reductions.
- The extent of coordination with other federal agencies; states; local, public, and private agencies/organizations; and other stakeholders to coordinate resources and actions.

- The readiness and capacity to proceed among stakeholders, including other federal, state, and local agencies or organizations.

Similar to protection work, the readiness and capacity of stakeholders to proceed ranks high among the factors leading protection efforts.

FIVE-YEAR RESTORATION STRATEGY

Year 1:

- Conduct a statewide review of existing WBPs to identify:
  - Outdated elements or implementation gaps
  - Current impairment status and monitoring data
  - Opportunities for updates that support more effective restoration
- Initiate updates to high-priority existing plans, especially where implementation can be reinvigorated
- Identify Category 5 waters from the Integrated Report that lack approved plans
- Solicit interest from new planning facilitators and stakeholders in unplanned watersheds with significant impairments
- Provide technical assistance for plan updates and development

Years 2–3:

- Continue to revise and strengthen existing WBPs or alternative plans based on updated information and partner input
- Launch new plan development efforts in watersheds identified through Year 1 outreach
- Prioritize implementation of BMPs in watersheds with recently updated or completed plans
- Support capacity-building efforts for stakeholder groups in newly engaged regions

Years 4–5:

- Maintain and adaptively manage ongoing restoration projects
- Evaluate the effectiveness of updated and new watershed plans in driving water quality improvements
- Document pollutant load reductions and other indicators of success (e.g., streambank stabilization, riparian restoration, habitat improvements)
- Publish NPS Success Stories for projects demonstrating measurable improvement or strong collaborative engagement
- Reassess the statewide inventory of impaired waters to identify remaining gaps in watershed planning or implementation

CHAPTER 5: IMPLEMENTING PLANS AND PROJECTS

5.1 CARSON RIVER

The Carson River originates in Alpine County, California and flows into Nevada as two separate tributaries. The East Fork begins in the Carson Iceberg Wilderness and the West Fork near Lost Lakes. The West Fork becomes Brockliss Slough in Nevada and meets the East Fork near Genoa in Carson Valley. The main stem of the river continues through Carson City into Dayton Valley and after being diverted primarily for agriculture, remaining flow is stored in Lahontan Reservoir. The Lower Carson River is released from the reservoir, providing water for farms, ranches and the Stillwater Wildlife Refuge before terminating in the Carson Sink. The river, from headwaters to terminus, is approximately 184 miles in length. Like many rivers and waterways in Nevada, the Carson River ends in a terminal playa lake, meaning that it does not flow to the ocean. The watershed has been impacted by mining, logging, agriculture, urban development, hydrologic modification, floodplain loss, and flooding.

As a result of the 1997 100-year flood event, the Carson River Coalition (CRC) was created to integrate watershed management efforts throughout the basin. In May 2007, the *Carson River Adaptive Stewardship Plan (CRASP)* was completed by the CRC and Carson Watershed Subconservancy District (CWSD) in cooperation with the NPS Program and EPA Region 9. The CRASP provides an overview of the watershed, identifies potential sources of pollution, discusses short- and long-term strategies to mitigate pollution, provides a mechanism to track projects and addresses EPA's nine required key elements of a WBP. During the 2015-2019 Plan, the CRASP was updated and approved by EPA.

In 2008, the CWSD and stakeholders developed the Regional Floodplain Management Plan (RFMP) to address the impacts of flooding. The RFMP (which is currently being updated) incorporates principles of managing development without sacrificing floodplain and river form and function; ensuring public safety; protecting property rights while conserving natural resources; protecting and improving wildlife habitat and water quality; providing river continuity and connectivity; and promoting land conservation in the river corridor.

Priorities in this Plan include working with active partners to implement the revised CRASP to reduce nutrients and sediment and improve riparian habitat and water quality (including in-channel restoration); promote the update and implementation of the RFMP including developing and delivering a related outreach plan; and support and deliver a high-quality environmental education program.

5.2 COLORADO RIVER/LAS VEGAS WASH

The Las Vegas Wash (Wash) is the natural drainage system for the Las Vegas Valley hydrographic Basin. The Wash is an effluent-dominated system, with the largest flow component comprised of reclaimed water from four large wastewater treatment plants to the Las Vegas Bay of Lake Mead. Intercepted shallow groundwater and urban runoff are a much smaller regular flow component.

Storm events can deliver massive volumes of runoff to the Wash causing erosion, head-cutting and loss of habitat and infrastructure.

The Las Vegas Wash Comprehensive Adaptive Management Plan (LVWCAMP), which was approved by the Las Vegas Wash Coordination Committee on December 28, 1999, tackles the tough issues surrounding the Las Vegas Wash such as erosion, habitat loss and water quality. The LVWCAMP has been determined to meet the nine elements of a WBP. The main recommendations of the CAMP are to define the structure for local oversight of the plan; install erosion control structures; identify water resources needs to maintain Clark County Wetlands Park; participate in Alternate Discharge Study; establish off-stream wetlands and evaluate storm water detention/retention basins; conduct sediment transport modeling; develop long-term monitoring programs; develop a central database for shallow ground water information; support the development and implementation of environmental review process among planning entities; investigate potential funding source; and continue implementation of the Public Outreach Program.

NDEP is focusing efforts on supporting the active stakeholders who are implementing water quality improvements in the Las Vegas Wash. The main water quality issue addressed is reducing sediment in the Wash and educating residents in how to reduce nonpoint source pollution. The NPS Program's efforts are relatively minor and focused on supporting the extensive efforts being implemented by the local stakeholders. This includes funding priority projects consistent with the CAMP to reduce sediment and other NPS pollutants and conducting environmental education programs that are not called for in permitting actions.

5.3 LAKE TAHOE BASIN

The Lake Tahoe Basin is a destination for approximately 15 million visitors annually and is home to roughly 55,000 year-round residents. As the largest alpine lake and third deepest in North America, Lake Tahoe is famous for its remarkable clarity and striking blue color. It is designated an Outstanding National Resource Water (ONRW) by the state of California and a "water of extraordinary ecological or aesthetic value" by the state of Nevada.

However, approximately one-third of Lake Tahoe's unique clarity was lost between 1968 and 2000. To address the beneficial use impairment, the California Regional Water Quality Control Board, Lahontan Region (Lahontan Water Board) and NDEP collaborated to develop the Lake Tahoe TMDL. Approved by EPA in August 2011, the Lake Tahoe TMDL quantifies the relative contributions of fine sediment particles (FSP), phosphorus, and nitrogen inputs to Lake Tahoe from major pollutant sources; quantifies load reductions needed to achieve the TMDL numeric and interim Clarity Challenge annual average secchi depth targets of 29.7 and 24 meters respectively; and outlines a workable, cost-effective implementation strategy to meet these goals. The Lake Tahoe TMDL together with its supporting documents serves as the WBP for the Lake Tahoe Basin which meets the nine EPA-required elements.

Lake Tahoe TMDL research identifies fine sediment particles (FSP) less than 16 microns in diameter as the greatest contributor to lake clarity decline and stormwater runoff from the urban uplands as the primary source of FSP pollution. Urban stormwater runoff was found to contribute 72 percent of the total FSP load entering Lake Tahoe. NDEP entered Interlocal Agreements (ILAs) to implement the Lake Tahoe TMDL with the Nevada urban jurisdictions: Douglas County, Washoe County, and the Nevada Department of Transportation. A more flexible regulatory approach than that which is permit-based, the agreement process is intended to span the timeframe needed to achieve clarity goals. The ILAs specify the following actions that each urban jurisdiction will take to implement the Lake Tahoe TMDL:

(1) Develop and implement stormwater load reduction plans to achieve established milestones;
(2) Participate in the Lake Clarity Crediting Program (Crediting Program);
(3) Implement stormwater and pollutant control condition assessment monitoring; and
(4) Report accomplishments on an annual basis.

To support prioritization and implementation of the most effective controls to reduce FSP loading from urban stormwater runoff, the Lahontan Water Board and NDEP developed the Crediting Program. The Crediting Program uses standardized tools and protocols that urban jurisdictions apply to consistently and transparently estimate FSP load reductions achieved through implementing water quality improvement actions. Urban jurisdictions use the Pollutant Load Reduction Model (PLRM), a continuous simulation water quality model developed as part of the Crediting Program, to estimate pollutant load reduction potential associated with implemented pollutant controls. Once registered in the online Lake Tahoe Info Stormwater Tools, urban implementers garner lake clarity credits for these pollutant controls if established condition assessment protocols verify that actual on-the-ground conditions are representative of modeled condition.

Changes in nearshore conditions at Lake Tahoe have become evident to visitors, residents, and resource managers. Of particular concern are the changes in nearshore clarity, increasing periphyton growth, spread of invasive species, and a decline of native species in the nearshore biological communities. NDEP participates as a member of the Nearshore Agency Workgroup with Lahontan, TRPA and EPA to implement the Nearshore Resource Allocation Program (NRAP). NRAP directs nearshore science and monitoring investment through a systematic framework to better understand nearshore conditions and processes and reduce uncertainty about management actions. The NRAP is structured around a series of environmental focus areas, each with unique conditions and challenges. Online documentation on each focus area page provides a brief state-of-the-knowledge summary, descriptions of recent research findings, and links to applicable monitoring programs.

NDEP is focusing efforts toward achieving the Clarity Challenge goal of 24 meters annual average Secchi disk depth by 2031. This will be done by coordinating with the urban and non-urban partners to implement the TMDL and by educating the public about nonpoint source issues in the Lake Tahoe Basin. Additional information regarding the Lake Tahoe TMDL Program is available on the Lake Clarity Tracker on Lake Tahoe Info.

Annual Lake Tahoe TMDL Implementation, Workplan, Reporting and Administration

NDEP will continue in its efforts for implementing the Tahoe TMDL program. Within Nevada, NDEP coordinates work with NDOT, Washoe County, Douglas County, and the Tahoe Regional Planning Agency (TRPA). Annual and periodic review and approval of registered BMPS are complete by NDEP 319 staff (specifically NDOT 1 year road registrations, Kingsbury General Improvement District (KGID), Douglas County and Washoe County's 5-year Road Registrations. These actions all result in the implementation of the Tahoe TMDL projects that are aimed at reductions of urban upland FSPs and nutrients. The current rate of implementation has led to approximately credits of 75 per year from Nevada stakeholder (which amounts to ~190000 lbs FSP, 1470 lbs of nitrogen and 600 lbs. of phosphorus every year).

NDEP will continue in its committed collaboration with the Lahontan Water Board to effectively administer the Lake Tahoe TMDL Program. The TMDL Management System is a coordinated set of procedures that enable effective and transparent adaptive management of Lake Tahoe TMDL implementation. These procedures enable program adjustment in response to new relevant scientific or technical findings, challenges identified by implementing partners, or altered future conditions (either natural or anthropogenic).NDEP staff also work in coordination with the Lahontan Water Board to annually produce the Finding Recommendations, TMDL Performance Report, and Decision Record Memo.

Stakeholder engagement and interaction is critical for the success of the TMDL Management System. Stakeholders, including funders, implementers and scientists all play an important role in providing input and feedback to improve program operations, and thereby ensuring clarity restoration proceeds in an efficient manner and expenditures of public funding on water quality improvements are justified.

NDEP also will continue to seek and fund projects (solely or in partnerships) within Tahoe basin watersheds in Nevada to protect or improve upland and headwater stream function (identified sources of FSP and nutrients).

Major milestones associated with the implementation of the Tahoe TMDL over the next five years include the following:

- Benchmarking the Credits and Clarity measures in 2026 and initiating the evaluation of the 15th year clarity challenge.
- Working with urban implementing partners to execute updated ILAs for the 2027-2031 period.
- Conducting a coordinated evaluation of the Tahoe Monitoring program (2025) and the overall TMDL program (2028) that will lead to the TMDL planning over the next years. The TMDL evaluation will guide NPS 319 efforts in the development of the next SMP (2030-2035) regarding Lake Tahoe efforts

- Utilizing the Tahoe Science Advisory Council to help develop a "road map" to adaptively manage the Lake Tahoe TMDL including updating the Lake Tahoe Watershed Model and assessment of source loading and other factors driving lake clarity.

5.4 TRUCKEE RIVER WATERSHED

The Truckee River begins as a singular outflow from Lake Tahoe in Tahoe City, California. The river flows north through Truckee and northeast down through the mountains along the Interstate 80 corridor to the Nevada state line. The river then continues east through the cities of Reno, Sparks, and Fernley, and then turns north again through the Pyramid Lake Paiute Reservation, ultimately terminating in Pyramid Lake. The Truckee River is approximately 121 miles long and the drainage basin is approximately 3,060 square miles, about 2,300 of which are in Nevada. About 25% of the basin is in California, and the remaining is in Nevada.

The Truckee River and its tributaries provide numerous beneficial uses for the region including watering of livestock, irrigation, propagation of aquatic life, recreation involving contact with the water, recreation not involving contact with the water, municipal and/or domestic supply, industrial supply, and propagation of wildlife. The Truckee River and tributaries are impaired for phosphorus (10), *E. Coli* (8), arsenic (7), beryllium (7), temperature (6), boron (5), TDS (4), cadmium (4), nitrogen (3), pH (3), iron (3), manganese (3), turbidity (3), mercury (2), dissolved oxygen (1), barium (1), selenium (1), sulfate (1).

Population growth in the region has been increasing steadily which can put the Truckee River and its tributaries at risk of increased NPS pollution inputs due to increased coverage of urbanized and impermeable surfaces. The percent of population change in Washoe County between 2010 and 2022 was 14%, emphasizing the importance of land use planning, environmental protection, and NPS investments with the conversion and development of undeveloped open space to urbanized areas.

The Truckee River watershed provides unique and valuable habitat for multiple threatened or endangered species including Northwestern Pond Turtle (proposed threatened species), Cui-ui (endangered species), Lahontan cutthroat trout (threatened species), Carson wandering skipper (endangered species), Yellow-billed cuckoo (threatened species), and Webber's Ivesia (critical habitat) (https://ipac.ecosphere.fws.gov/location/HYVO6BSZTNHOFPC5TZIATN32EE/resources#endangered-species).

The Truckee River also provides 80-85% of drinking water to approximately 450,000 people throughout the Truckee Meadows. Additionally, this watershed contains six upstream reservoirs and 89 production wells in nine groundwater basins to meet the demand of water throughout the region (https://tmwa.com/wp-content/uploads/2020/11/TMWA-WRP-2020-Final.pdf).

There are also numerous partnering organizations that demonstrate a willingness and capacity to implement water quality improvement projects including, but not limited to, Truckee Meadows Parks Foundation, One Truckee River, Keep Truckee Meadows Beautiful, Truckee Meadows Regional Planning Agency, Washoe County, City of Reno, City of Sparks. Additionally, other funding sources are available for water quality improvement projects are available within the watershed including Truckee Meadows Water Authority's Truckee River Fund, National Park Service, Rivers, Trails and Conservation Assistance Program, and Bureau of Reclamation Water Smart Grants.

5.5 VIRGIN RIVER

The Virgin River is a tributary to the Colorado River that flows into Nevada from Southwestern Utah and Arizona and continues to Lake Mead, the main drinking water source for Las Vegas. The river and its adjacent lands provide habitat for many federally listed species, including the Virgin River chub and the Southwestern willow flycatcher.

NDEP was invited to engage with the Virgin River Coalition (VRC) watershed planning process in 2017 and participated in the development of a watershed plan for the Nevada portion of the Virgin River corridor. The Coalition developed the initial plan and has provided resources to develop water quality goals to such that the plan meets all 9 elements of an EPA WBP. NDEP will continue to provide guidance and technical assistance to the VRC which will position the stakeholders in the watershed to fully engage in implementation projects to improve in-stream temperatures and decreased loadings of total phosphorous- both of which should improve habitat for the propagation of aquatic life (its main impaired beneficial use). The VRC's watershed plan is in revision to meet requirements for an EPA accepted nine-element plan.

The revised plan will be completed during year one of the five (5) year plan and it is anticipated that implementation activities to mitigate erosion sources in the area and to improve in-stream temperatures will ensue throughout the remaining years of the Plan. Specific BMPs that will be explored likely include Tamarisk removal and riparian area vegetation managed. Erosion controls within ephemeral channels that exhibit erosion in response to episodic flashy precipitation events as well as the promotion of LID practices in association with land developments throughout the area.

5.6 WALKER RIVER BASIN

The East and West Forks of the Walker River drain out of the Sierra Nevada north of Mono Lake in California, connecting to form the main stem upstream of Yerington, Nevada. The river continues adjacent to the Mason Valley Wildlife Refuge and flows through Paiute Tribal land before terminating in Walker Lake in Mineral County. The watershed area covers approximately 4050 square miles, and the primary land use is agriculture. Approximately 25% of the basin lies in California; the remainder is in Nevada.

The East and West forks of the Walker River provide numerous beneficial uses for the region including recreation involving contact with the water, recreation not involving contact with the water, watering for livestock, irrigation, municipal and/or domestic supply, and propagation of wildlife. Identified issues for the East and West Walker River include nitrogen and/or phosphorus, turbidity and metals. There are three public water systems in the watershed that supply ~847 visitors and residents located within the Walker River State Recreation Area, the Walker River Paiute Tribe and Shurz Elementary School.

The Walker Basin watershed provides unique and valuable habitat for multiple threatened or endangered species including Northwestern Pond Turtle (proposed threatened species), Lahontan cutthroat trout (threatened species), Greater sage-grouse (proposed threatened species), Yellow-billed cuckoo (threatened species) and the Sierra Nevada Fox (endangered)(IPaC: Home (fws.gov).

NDEP is establishing a working relationship and collaborative effort with NDSP and Walker Basin Conservancy to create an EPA 9-element watershed management plan for 12,000 acres of the Walker River State Conservation Area which was acquired in 2017. This collaboration is expected to prioritize and implement restoration projects along 29 miles of the East Fork of the Walker River to reduce NPS pollutants to that tributary, and ultimately, to Walker Lake. Currently, NDEP is working with the Smith and Mason Valley Conservation Districts to implement small scale bank stabilization projects on the West Walker River.

NDEP is also participating in the Walker Basin Workgroup which establishes key conservation and land management priorities in the basin related to water quality, water quantity, wildlife habitat and special status species. This stakeholder group consists of over 80 members representing federal, state, local, public and private agencies/organizations.

NDEP is focusing on reducing nutrients and sediment in the Walker River through implementation of water quality improvements and channel restoration through coordination with our partners that are active in the watershed. This includes addressing effects of hydromodification through river rehabilitation and stabilization.

5.7 SNAKE RIVER, HUMBOLDT RIVER, BLACK ROCK, GREAT SALT LAKE AND NORTHWEST REGION BASINS

These watersheds (HUC8 Basins) cover large expanses of Nevada yet have not been targeted areas of NPS pollution management by the 319 programs over the past several years. However, these watersheds contain valuable natural resources that serve many beneficial uses supporting the highly valued ecosystems and the economy of the state. Large expanses of these watersheds are private lands that often interface with the larger expanses of public lands managed by BLM and the US Forest Service. Agriculture throughout this area often consists of Cattle and sheep/herd management with some Hay and Alfalfa production in the Valleys of the Large Basin and Range provinces. The water quality issues identified in the integrated report for this area mostly include temperature, total

phosphorus, total suspended solids and e. *coli* as sources of waterbody impairments. Many of these water quality issues are associated with waterways having highly erodible banks due to the composition of the sage brush steepe that cover vast expanses of Nevada. Thus, non-point sources of pollution can often be addressed by common BMPs utilized over vast areas of these Basin's landscapes.

NDEP-NPS efforts have occurred in some of these watersheds in the past and the NPS program will prioritize efforts aimed at devoting 319 grant resources that can aid in the attainment of stakeholder's economic, conservation and management aims across the entire state. To these ends NDEP has already started planning efforts in smaller scale watersheds (HUC-12s) targeting localized issues raised by local conservation management groups and Tribes. Specific areas targeted already include the Owyhee River Basin, the Humboldt River (near the town of Elko) and Peavine Creek (in the central basin). Once plans are developed in these areas (and in addition areas as outlined in prior sections-implementation work will be pursued).

5.8 STATEWIDE IMPLEMENTATION ACTIVITIES

5.8.1 HABS IDENTIFICATION AND MITIGATION

HABs are identified as an emerging contaminant in the 2020-2024 Nevada SMP. Over the 2025-2029 period, HABs are identified as a priority consideration in planning and project work. BWQP has observed increases in cyanobacteria bloom frequency and magnitude since 2018. Increased inputs of nutrients like nitrogen and phosphorus can lead to eutrophication, promote cyanobacterial growth and increased occurrences of HABs. Sources of nutrients include agriculture and urban runoff, wastewater, fossil fuels, sediment discharges, and septic tanks. Low flows, stagnant water, increased intensity and duration of sunlight, and sustained high temperatures create the ideal conditions for HABs. Changing temperatures and changing precipitation patterns will continue to make addressing this emerging issue critical to protecting human and ecosystem health.

Identified as a national NPS Program goal and priority in the EPA's *Nonpoint Source Program and Grants Guidelines for States and Territories* draft revision release October 30, 2023, the 319 Program plays an important role in reducing nutrients reaching Nevada's surface waters. 319 grant funding applied to the development of a satellite-based detection and dynamics assessment tool, when combined with statewide efforts within the BWQP branches (SAM and BAM Branch), will enable the identification of sources and other factors contributing to excess nutrient delivery, which is the initial critical step to being able to control HABs. Work supported by NPS program and coordinated with statewide partners (Nevada Department of Health and Human Services, Office of State Epidemiology; NDSP; NDOW; Nevada Department of Agriculture) will aid in proactively protecting communities, watersheds, and waterbodies from the future increased threat of HABs exacerbated by fire, drought and flood conditions.

Year 1 Goal – Complete development of satellite based remote sensing tool.
Objectives and Milestones:

- Coordinate with developer to complete implementation of tool.
- Modification of existing database to store satellite data and produce reports.
- Begin collecting data and pinpointing areas of high occurrence.
- Use built-in analysis tools to correlate bloom occurrence with nutrient concentrations and other environmental factors.

Year 2 Goal – Prioritize areas to develop WBPs
Objectives and Milestones:

- Use RPS to help rank/prioritize targeted NPS reduction potentials
- Use satellite tool built in analysis capabilities in conjunction with RPS screening to pinpoint watersheds for NPS projects.

Year 3 Goal – Get WBP approved targeting highest priority areas
Objectives and Milestones:

- Implement BMPs in context of HAB-based WBP.

Year 4 Goal - Implement BMPs in context of HAB based WBP.
Objectives and Milestones:

Year 5 Goal - Evaluate NPS reductions
Objectives and Milestones:

- Evaluate NPS reductions to mitigate/prevent HABs and inform future WBPs.
- Plan next 5 years

5.8.2 BACTERIA

BWQP has developed draft TMDLs for bacteria in water bodies listed as impaired for such pollutants. These impairments occur in multiple areas across the state. The associated TMDL implementation plans generally align with broader goals to enhance riparian function and reduce erosion, both of which support surface water protection. Therefore, the NPS Branch will incorporate bacteria TMDL information into its watershed prioritization efforts. By aligning TMDL implementation with NPS planning, the program can pursue co-benefits—such as streambank stabilization and riparian restoration—that also contribute to reducing bacterial loads in impaired waters.

CHAPTER 6: PROGRAM ADMINISTRATION

6.1 OPERATIONS

6.1.1 PROGRAMMATIC AND POTENTIAL PARTNERSHIP FUNDING SOURCES

The State of Nevada provides no direct state funding to NDEP to address nonpoint source related water quality problems. NDEP's NPS Program is supported entirely by 319(h) grant funds. The required non-federal match for the 319 grant currently is provided by project implementers which include other state and local agencies, environmental organizations and individuals through a combination of cash and in-kind contributions. Other sources for NPS work or matching funds will be sought in the implementation of the next five (5) years of activities. Specific potential partners are outlined below.

- **State Revolving Fund**

  The Clean Water State Revolving Loan Fund (CWSRF) was created by Congress in CWA amendments of 1987 to replace the Construction Grant Program. The program provides loans at or below market rate and other forms of financial assistance to municipalities to assist them in financing the construction of wastewater treatment works and projects to control non-point sources of water pollution. These funds are not sufficient to satisfy all of the State's wastewater treatment needs and are currently only utilized for infrastructure projects.

- **Lake Tahoe Environmental Improvement Program (EIP)**

  The EIP is a long-term plan that identified over $900 million in projects and programs needed to improve the environment at Lake Tahoe. The cost of implementing the EIP has been apportioned between the Federal Government, the States of Nevada and California, local governments, and private property owners. Nevada's commitment is $182 million.

- **Conserve Nevada:**

  This program is a state-funded grant initiative that supports conservation, restoration, recreation, and cultural resource projects across Nevada. Managed by the Nevada Department of Conservation and Natural Resources, it is funded through state-issued general obligation bonds authorized under Assembly Bill 84 (2019). The program supports a wide range of eligible activities, including trail development, wetland and river restoration, land acquisition, and wildfire resilience. Grants are available to local governments, nonprofits, state agencies, and tribes through a competitive process. In recent years, restoration efforts have been jointly supported by both the Conserve Nevada Program, 319, and other funding. Going forward, the NPS Program will continue to actively seek opportunities to coordinate and leverage Conserve Nevada funding in support of integrated watershed-scale restoration projects that protect and improve state water resources over the five-year period of this Plan.

- **Abandoned Mines Land Program:**

  Established by the Legislature in 1987 under NRS 513, Nevada's Abandoned Mine Lands (AML) program is tasked with inventorying, assessing, and securing hazardous mine sites—such as shafts and waste dumps—across the state. It is funded through mining claim fees, a disturbance fee, and partnership agreements, rather than general fund dollars, and focuses

on both physical safety and environmental hazards on public and private lands. The NPS Program will continue to seek opportunities to address abandoned mine-related pollution by leveraging the state's Good Samaritan provisions and the federal Good Samaritan Act of 2024. These tools offer a pathway to collaborating with non-liable partners on the remediation of abandoned hardrock mine impacts with potential to degrade Nevada's waterways.

- **Other Lake Tahoe Specific Funding**

  NDSL administers two Tahoe bond acts, the Lake Tahoe license plate program, and the excess coverage mitigation program. The Tahoe bond acts approved by the voters in 1986 and 1996 authorized the sale of more than $50 million in bonds for the acquisition of sensitive lands and funding erosion control and stream restoration projects in the Tahoe basin. The License Plate Grant Program is administered through an annual request for proposals process and usually has about $300,000 to $350,000 to disburse.

  The Tahoe excess coverage mitigation program is funded by excess coverage mitigation fees forwarded from the Tahoe Regional Planning Agency. The objective of this program is to improve the water quality of Lake Tahoe through the retirement of land coverage and restoration of disturbed lands. This program acquires land and land coverage.

NDEP will continue to work with local, state, and federal partner agencies to implement water quality improvement and erosion control projects through these funding sources and possible new sources as they are identified.

6.1.2 SOLICITATIONS AND SELECTION OF PROPOSALS

The primary way the NPS Program has selected implementation projects and programs with partners to support is through an annual Grant Funding Opportunity (GFO) process. Proposals are evaluated and ranked according to established criteria by a technical review panel that consists of NDEP NPS Program staff and the U.S. EPA Region 9 Nevada Project Officer. Primary criteria used to evaluate implementation projects include but may not be limited to:

- Potential for NPS pollutant load reductions.
- Extent of other agency collaboration and partnering.
- Extent of treatment of urban runoff or riparian habitat improvement.
- Anticipated amount of local match; and
- Commitment to maintenance of BMPs.

Other appropriate criteria are used to evaluate environmental education projects including the extent of anticipated impact and reportable metrics to show successful delivery of the program.

6.1.3 DIRECT FUNDING ACTIONS

The NPS program in Nevada has relied on a competitive grant process to request proposals for 319 subawards over the past decade. NDEP focused requests for proposals in the last year to seek projects to develop watershed-based plans and implementation projects that will lead to measurable

water quality improvements within impaired waters. Despite efforts to solicit proposals with targeted outcomes, the program traditionally only receives a few proposals for projects that are likely to have significant improvements in water quality and only a few that would result in completed watershed-based plans.

In the spirit of continuous improvement, NDEP will evaluate the grant solicitation process and determine if enhanced benefits could be realized by working directly with partners to identify and develop high priority plans and projects that achieve greater results than through a state-wide solicitation. Coordination with local external partners and stakeholders will continue as new high priority projects are identified through this process. We will also continue to work with other state and federal agencies to ensure that implementation and efforts are coordinated and mutually beneficial. The internal identification, review, and approval process for both direct funding and solicited awards will require projects to have quantified load reductions before implementation. The NPS program may seek and direct-fund high priority projects and watershed-based planning-especially in locations where repeated subawards have not resulted in significant improvements in water quality or in areas where recovery potential is high.

6.1.4 FINANCIAL AND ADMINISTRATIVE MANAGEMENT

The NPS Program implements appropriate financial and legal management of 319 grants and subawards. A structured, tiered network of financial review is strictly adhered to for all funded projects. Contract invoices requesting payment through the 319(h) grant subawards are initially reviewed by project Contract Coordinators, and upon their approval are forwarded to the BWQP Contract Manager for secondary review and approval. The payment request is then sent to NDEP's Office of Fiscal Management (OFM) for final review and payment. NDEP implements strict internal controls according to the Division administrative manual and complies with all state and federal grant reporting requirements and reports to EPA as required in appropriate financial reports.

6.1.5 GRANTS REPORTING AND TRACKING SYSTEM (GRTS)

EPA requires the NPS Program to track 319 grant subawards through their Grants Reporting and Tracking System (GRTS). The Grants Reporting and Tracking System is the primary tool for management and oversight of the EPA's NPS Program. The NPS Program reports progress in meeting milestones, including reductions of NPS pollutant loadings and improvements to water quality achieved by implementing NPS pollution control practices.

6.1.6 OTHER EPA-REQUIRED REPORTING

NDEP reports to EPA to document incremental progress toward achieving annual grant milestones. Additionally, NDEP reports to EPA annually to document progress in achieving Plan and grant milestones including information submitted by outside agencies. NDEP will additionally begin evaluating the Plan for update needs based on new water quality assessment information and

partnerships built with stakeholders. NDEP will submit a draft Plan update to EPA for review and discussion during the fifth year of Plan implementation. Once EPA comments and NDEP revises the document, NDEP will submit the final updated Plan for the subsequent five-year implementation period (2025-2029).

Quarterly Reports will consist of narrative description of progress toward the measures of success in Partnerships, Prioritization, and Planning and Implementation work (detailed in section 6.3 below). Quarterly reports will also provide a narrative highlighting substantial developments in each of those categories including both successes and challenges experienced during the quarter. The reports will also provide financial drawdown status on open Federal awards, listings of active and new subawards administered during the quarter as well as those subawards that were closed.

Annual reports will compile the significant achievements, compiled financial information and expenditures /resource allocations towards the three major categories of work outlined in this 5-year workplan and in the annual workplans submitted each year.

6.2 MILESTONES AND TIMEFRAMES TO GUIDE ACTIVITIES

6.2.1 PARTNERSHIPS MILESTONES AND TIMEFRAMES

The importance of forming working partnerships and networks for coordinating efforts and resources has been discussed in prior sections. Some of these partnerships- especially with local entities have been established and continuation of these efforts will be ongoing. However, the plan herein contains some new milestones that the program hopes to achieve as the next five (5) years of water quality work proceeds.

NRCS: Notably- the NPS Program aims to have more coordinated work with the NRCS-NWQI program, the BWQP SAM branch, as well as the BWQP Bioassessment and Special Projects branches. We also aim to coordinate with the NRCS-Source Water Protection Area (SWPA) program, the SAM branch and NDEP's Source Water Protection branch such that our efforts aid SWPAs in attaining their desired outcomes due to resource allocations by NRCS and NDEP.

In year one we aim to have a coordination agreement for monitoring and assessments (in the already established sites SWPA). In addition, in year one of this SMP we will have run scenarios using RPST to help identify areas that might be good candidates for the development\designation of another NWQI area in Nevada.

By year two we will have developed a list of candidate NWQIs (using NPS criteria as well as criteria for the NRCS) and hope to be working on WBPs for those watersheds- such that the NWQI designation process can proceed.

In years 3-5 we hope to work with coordinated partners (nominally landowners, NRCS, SAM, and NPS branches) to have the NWQI designated and to have implementation work begin therein. By targeting at least one more NWQI we aim to leverage the Nevada situation to obtain more federal support, beyond that available in the 319 grant and existing NRCS funding, for realizing gains in water quality.

CWSRF and SWSRF: Both SRF programs allocate significant resources to develop and maintain infrastructure helping water quality issues throughout the state. BWQP's NPS program has not had a history of having coordinated efforts to support NPS reduction actions with either of these programs within NDEP. Therefore, the NPS program hopes this status can be changed during the 2025-2029 period. Specific opportunities for partnering are already being explored and notional ideas with notional milestones have been identified/discussed. For instance, partnering and financing of "sponsored" CWSRF- NPS projects may be more attainable if language can be considered that may allow resources to be allocated to "eligible recipients" beyond just those municipalities that treat sewage. Moreover, a Debt Management Policy that allows lending rate forgiveness for SRF projects may allow rate incentives for municipality "sponsored" projects. In combination, proposed code changes, such as these, may incentivize NPS attention across the state and may allow the release of future solicitations that outline such incentives (a milestone targeted for year 2 of the SMP; 2026).

Additional opportunities are being examined to determine if CWSRF projects are eligible to be credited for NPS "programs" or "projects". Several of these have clear water quality benefits related to NPS reductions. For instance, point source treatments that are recycled as a source water that ultimately will lead to less water being drawn from surface water sources is a means to maintain water quality in river. Additionally, conversion of septic systems to sewage that protects surface and groundwater are projects that may be counted as state-investments to minimize NPS pollutants (including the emerging pharmaceutical contaminants). As such, these projects could possibly be used to meet the match requirement for the 319 grants when funded from recycled monies and the current match requirement could possibly be lessened or dropped. Such actions could benefit local partners but could also lead to a diversification of projects and locations where matching funds and/or in-kind match have been hard to obtain or document. Additional challenges and barriers for coordinated NPS/SRF activities are likely to remain and be encountered as we seek to have CWSRF/SWSRF and NPS programs coordinated in the future.

BLM- USFS: A Shared Stewardship framework was entered into by Federal agencies and the State in 2019. The NPS Program seeks to participate in conservation efforts within these Priority Landscapes that have been designated by the stewardship work (Figure 6.1). Many of these areas overlap with the NPS program's existing and future interests in water quality improvement work. For instance, the Carson and Truckee River watersheds already overlap with the Shared Stewardship priority areas. As the NPS Branch looks at small watershed recovery potential in their prioritization work these designated areas will be a consideration for full watershed planning efforts. The gains that can be realized from such coordination include specific targets for water quality improvement when large,

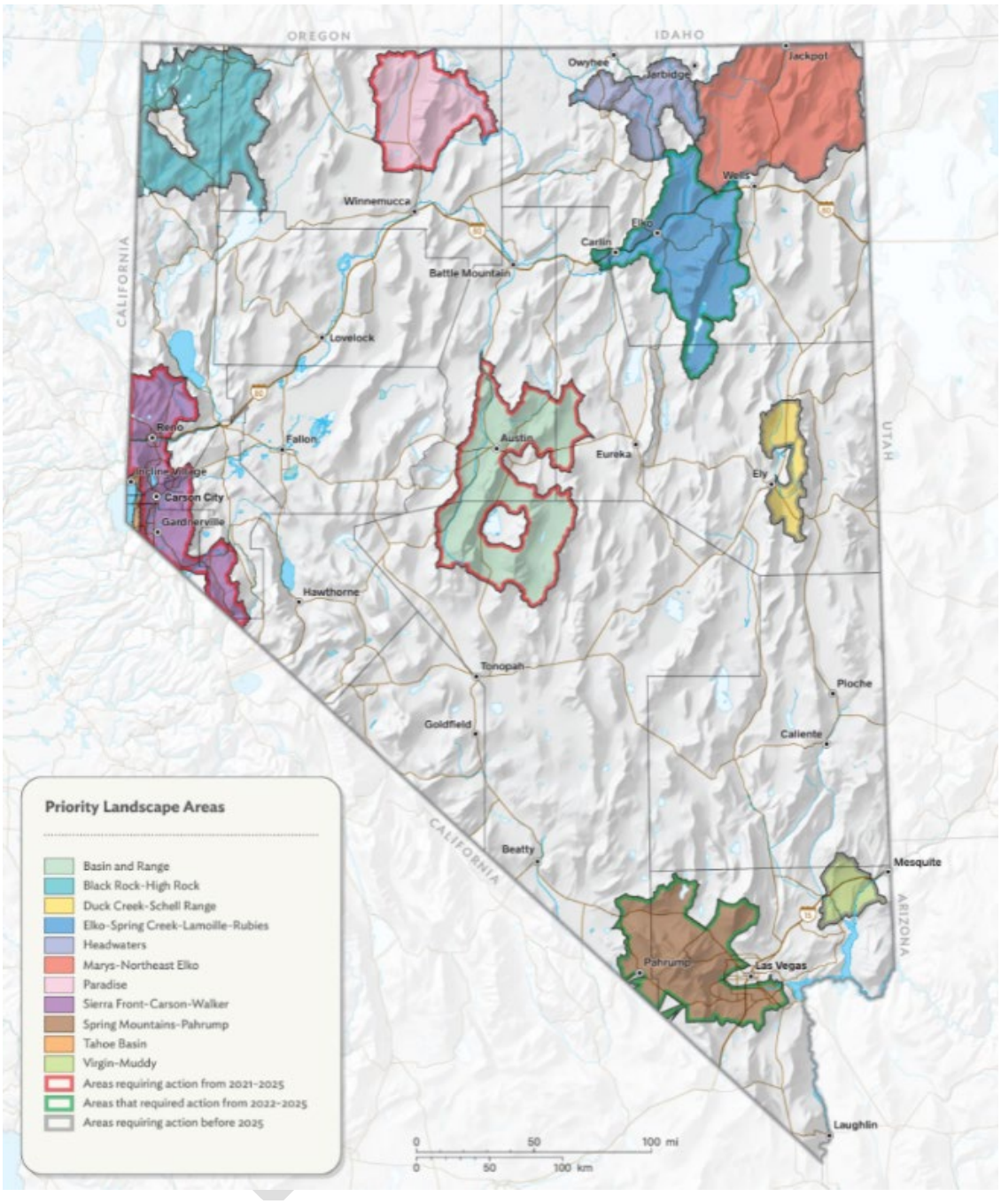

Figure 6.1. Priority Landscapes identified through the Shared Stewardship Framework.

interagency projects are being undertaken (for instance when grazing for fuels reductions and rangeland improvement projects are undertaken by BLM, USFWS and USFS).

BCA: The Nevada Division of Environmental Protection, Bureau of Corrective Actions (BCA) regulates underground storage tanks and provides oversight on remediation of leaking underground storage tanks (UST/LUST programs), provides oversight for Resource Conservation and Recovery Act corrective action cases, and provides certification of remediation consultants and UST personnel. BCA implements the Superfund Program and works with the U.S. EPA to manage the Carson River Superfund Site. BCA also oversees the Abandoned Mine Lands (AML) Program to address environmental problems at historic mine sites.

Figure 6.2. Abandoned Mine Lands sites in northern Nevada.

Many of these BCA issues overlap in interests protecting water quality and are linked to regulatory / permitting requirements and remediations by responsible parties which lie well outside of NPS program's purview. However, there are issues in the State of Nevada that are not entirely addressed by BCA program where the NPS program can assist in addressing NPS issues. One such area lies in abandoned mines where no responsible party exists yet there is a need to coordinate and implement remediation measures to reduce nonpoint source loads. For instance, abandoned mines are located on properties acquired since mining operations ceased. The new landowners are not responsible

parties, yet are committed to measures needed to prevent pollution of the waters of the State. Such situations exist and the use of 319(h) resources may be effective in helping address some of the corrective action issues. Examples of possible sites include Big Springs, Castle Peak, Corey (Big Indian) Mine, Jarbidge Mine and Mill, Nelson and Crum Canyon Adits, Patsy Ann Mine, Ramsey-Comstock, Rocky Gulch, Ted Saylor Mill, and Union Mine.

Coordinated work in the next 5 years will likely entail the identification of sites based on AML database entries and future investigations, evaluation of the scope and scale of the issue(s) to be addressed, and evaluation of the appropriateness of alternative watershed-based plans and implementation of remedial actions (e.g. either through GFO solicitation or direct funding actions).

Local/Regional Entities: Existing partnerships with local entities will continue by seeking proposals for ongoing restoration and protection work within context of approved WBPs (or accepted frameworks). Examples of the local entities where partnerships are ongoing include TRPA, CWSD, Washoe County, Clark County, and Douglas County. Examples of non-profit organizations funded by the NPS program also include The Nature Conservancy, One Truckee River, and the Truckee Meadows Parks Foundation. The emphasis in the next five (5) years for partnerships with each of these entities is to reduce NPS pollution in tangible ways such that load reductions to the Lake Tahoe, Carson River, Truckee River, Walker River, and Virgin River can be documented.

Additional partnerships will be sought or renewed in other watersheds throughout the state. Key partnerships with local entities (e.g. Counties, School Districts etc..) will likely be catalyzed by activities through the State's Conservation Districts and their staff. The State's CDP provides administrative support to the SCC and assist the State's 28 local conservation districts in the development and implementation of programs to conserve Nevada's natural resources. The emphasis of conservation district programs is on voluntary compliance and individual technical assistance. Some districts have taken an active role in riparian area management. Additional local or regional partnerships may also be catalyzed by relevant associations, foundations, and societies (e.g. Society of Land Management) as well as private interested parties.

6.3 MEASURES FOR TRACKING SUCCESS

6.3.1 PARTNERSHIPS

The measures for tracking success in the development or maintenance of partnerships can be challenging because coordination and conversations often produce intangible outcomes. However, this Plan provides a preliminary list of some tangible outcomes that can come from conversations and coordination efforts. Specifically, a good outcome of partnerships with federal agencies is joint plans resulting in on-the-ground projects - for instance the designation of a new NWQI (with associated projects). A measure for partnering with the state SRF program would be the determination of either providing NPS incentives or pathways to provide State matching funds for the

state's 319 federal awards (the determination should be complete in Years 1 and/or 2). Another measure could be the amount of matching funds provided or leveraged by partnering agencies.

Measure of success in Tribal coordination and partnerships could take the shape of shared stewardship projects that utilize local tribal knowledge as the basis of the BMPs employed for water protections or projects that are implemented on tribal lands or lands/waterways immediately adjacent.

6.3.2 PRIORITIZATION AND PLANNING:

Success in prioritization and planning will be measured by the development, maintenance, and use of targeted prioritization lists for both protection and restoration activities, as well as by the number and quality of WBPs (WBPs) and alternative plans that are developed, updated, and accepted.

For protection, success will be measured by updates made to existing plans that now incorporate protection goals under the new 319 guidelines, as well as by the identification of high-quality Category 1 waters with protection opportunities. Prioritization for protection will be informed by vulnerability assessments that consider emerging threats (e.g., wildfire, HABs), RPS outputs, and cross-agency data. Planning milestones will include the number of stakeholder outreach efforts in protection-priority watersheds, the number of new protection-focused plans initiated or integrated into existing WBPs, and the number of accepted protection-inclusive plans.

For restoration, success will be tracked by the regular updating of prioritization lists using tools such as the Integrated Report, the EPA RPSRT, PLET, and Model My Watershed. These lists will identify Category 5 waters with high potential for water quality improvement. Metrics will include the number of stakeholder solicitations in impaired watersheds, the number of newly developed or updated WBPs or alternative plans in restoration-priority areas, and the number of plans formally accepted by EPA. NPS Program anticipates at least one new restoration-focused watershed plan to be developed and accepted per year, in line with EPA guidance.

In both protection and restoration efforts, stakeholder engagement will be tracked by the number of planning facilitators identified and supported, and by the documented capacity and interest of local partners to carry out planning and implementation. All prioritization and planning activities will be reviewed annually and revised as necessary to ensure they reflect evolving threats, opportunities, and program goals.

6.3.3 PROJECTS

The measures of success for implementation projects will include the annual compilation of the miles of riverbanks restored/protected; load reductions realized, and the percentage of total load reductions needed to meet water quality standards. Assessments of potential water quality improvements associated with implementation projects also will be evaluated to develop water quality improvement success stories. Another indicator of success for implementation projects may

be the evaluating essential ecological attributes (EEAs), such as landscape condition, biotic condition, chemical/physical characteristics, ecological processes, hydrology/geomorphology, and natural disturbance regimes, that describe the state of an ecological system and provide quantifiable stages of success.

Delisting's of impaired waters is a measure of all water quality improvement efforts and the net reduction of 303(d) listings is a measure of protective as well as restorative activities. During the next 5 years all delisting will be evaluated to determine if they are related to reductions in NPS pollutants. When appropriate, these will be reported as Success Stories.

Besides these numeric\compiled measures, NDEP will also report on successes in reaching communities across the state. Allocation of resources across counties and watersheds will also be tracked and reported- since an aim of the program is to help diversify its portfolio such that it can help address NPS issues for all Nevadans.

TABLE 6.1: METRICS FOR NPS PROGRAM

Focus Area	Metric	Target or Frequency	Notes / Data Source
Partnerships	Number of joint plans with federal agencies (e.g., NWQI designation)	≥1 plan every 2 years	Outcome of federal agency coordination
	SRF determination on NPS incentives or match funds	Complete by Year 2	Policy or program decision point
	Amount of match funds leveraged via SRF if applicable	Tracked annually if SRF is a match source	Funding documentation
	Number of shared stewardship/ plans/projects with Tribes	≥1 per planning cycle	Involves tribal BMPs or projects on/near tribal lands
Prioritization & Planning	Number of updated prioritization lists (restoration/protection)	Annual updates	Tools: Integrated Report, RPS, Model My Watershed, PLET
	Number of accepted WBPs or alternative plans	≥1 new plan/year	EPA acceptance as benchmark
	Number of protection-inclusive plans updated or initiated	Track annually	Includes emerging threats and high-quality waters
	Number of stakeholder engagement efforts (outreach, facilitators, etc.)	Tracked annually	Include capacity-building indicators
	Inclusion of protection goals in WBPs	Documented during plan reviews	Included and new under new 319 guidance
Projects	Miles of riverbank restored or protected annually	Track annually	Implementation project reports
	Load reductions (e.g., nitrogen, phosphorus, sediment)	Annual summary	Compare to WQ standards or TMDLs
	% of Total Load Reduction needed met	Track cumulatively per waterbody	Use monitoring and modeling data
	Number of impaired waters delisted due to NPS efforts	Evaluated and reported annually/ each new IR	EPA Integrated Report (IR)
	Evaluation of EEAs (e.g., biotic condition, hydrology)	Project-specific evaluations	Supports success story development
	Distribution of funding/projects by county/watershed	Annual geographic summary	Ensures equitable statewide resource allocation
	Number of success stories submitted to EPA	≥1 per year	Based on delisting or significant NPS load reductions