

Siskiyou County Flood Control and Water Conservation District



**Scott Valley Upland Recharge Expansion: Groundwater Recharge for Delayed
Instream Flow Support and Drought Resilience**

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Executive Summary

Date, Applicant, and Location Information

Date: Monday July 27, 2026

Applicant: Siskiyou County Flood Control and Water Conservation District (District), Yreka, Siskiyou County, California.

Applicant Category: The District is a local governmental entity organized under the California Water Code, with authority over water conservation and flood control within Siskiyou County, and is in the Western United States, within a Reclamation state. It serves as the exclusive Groundwater Sustainability Agency for Scott Valley Basin under California's Sustainable Groundwater Management Act with authority established under Siskiyou County Resolution FLD17-01 (April 4, 2017). The District is a Category A Applicant.

Task: The district is applying for funding under both *Task A: Infrastructure Projects* and *Task B: Water Management and Planning Projects*.

Funding Group: The District is applying to Funding Group II.

Project Summary

Summary: The Scott Valley Upland Recharge Expansion: Groundwater Recharge for Delayed Instream Flow Support and Drought Resilience, located in Scott Valley, California will expand Scott Valley Irrigation District's (SVID) managed aquifer recharge program into upland gulch sites in Scott Valley, California. This project combines work under Task A: Infrastructure Projects and Task B: Water Management and Planning Projects. Work under Task A includes finalizing conveyance design and installation of the two pumps and associated conveyance systems for the two additional upland gulch recharge locations. Work under Task B includes installation of supporting monitoring equipment including flowmeters to measure water applied to the uplands for recharge and pressure transducers to track groundwater levels and conditions in the upland gulch sites where recharge is planned. Additionally, the Scott Valley Integrated Hydrologic Model (SVIHM) will be used to evaluate and optimize water delivery at the two upland recharge locations and evaluate benefits to groundwater supply and instream flow augmentation. Hydrologic modeling has demonstrated that recharge at these upland locations, farther from the river than SVID's existing sites, produces groundwater storage and delayed subsurface release, timing groundwater return flows to bolster streamflow during the critical late-summer and fall low-flow period when drought impacts to fish and water users are most severe. By funding the pumps and conveyance infrastructure needed to reach these upland sites, this project will build on SVID's proven recharge track record to increase the Basin's resilience to drought, advance the recharge goals in the Scott River Groundwater Sustainability Plan under SGMA, and support flows for federally protected salmonid populations, directly furthering the Program's goals of building long-term drought resilience for communities, agriculture, and the environment.

Project Timeline and Estimated Completion Date

If awarded, the District will finalize design plans and order equipment in July and August of 2027 and begin pump installation and conveyance development in the summer of 2028. This project will be completed in a phased approach and has built in time for contingencies. Completion of this project is anticipated by June 2030, well before the anticipated project end date specified in the Notice of Funding Opportunity of October 2030.

Federal Facility Statement

This project is not located on Federal lands or a Federal facility.

Applicant and Project Background

The Siskiyou County Flood Control and Water Conservation District (District) is a local governmental entity organized under the California Water Code, with authority over water conservation and flood control within Siskiyou County. The District serves as the Groundwater Sustainability Agency (GSA) for the Scott Valley Groundwater Basin under California's Sustainable Groundwater Management Act (SGMA). The Scott Valley Irrigation District (SVID) is a partner for this project and the on-the-ground operator of the managed aquifer recharge (MAR) program that is the subject of this project. SVID diverts water from the Scott River and serves approximately 14 customers along the eastside of Scott Valley over roughly 14 miles of unlined earthen canal that follows the base of the eastside foothills. Water is delivered by gravity diversion. SVID has provided a letter of support for this project, included as **Attachment 1**.

Scott Valley is a medium-priority groundwater basin under SGMA. The Scott Valley Groundwater Sustainability Plan (GSP) was submitted in December 2021 and approved by the California Department of Water Resources in April 2023. The Scott River is a tributary to the Klamath River and supports runs of anadromous fish, including ESA-listed coho salmon and Chinook salmon, which depend on adequate late-summer and fall instream flows and cool water temperatures. Starting in 2016, SVID has partnered with UC Davis and, more recently, Larry Walker Associates (LWA) on a managed aquifer recharge (MAR) program that diverts high winter and early-spring Scott River flows through the existing SVID canal to flood fields, allowing water to seep into the ground and recharge the underlying aquifer. The 2016 UC Davis pilot was the first project in California to obtain a temporary groundwater storage permit from the SWRCB. Building on that pilot, SVID has obtained successive temporary SWRCB recharge permits each winter since 2022, recharging approximately 28.6 AF (2022), 816 AF (2023), 2,539 AF (2024), and 868 AF (2025). The goal of the fully upscaled program is to apply 5,400 acre-feet to fields for recharge annually, diverted from the Scott River under qualifying flow conditions and distributed through the existing SVID ditch.

Water may only be diverted for recharge under SVID's temporary SWRCB permits from mid-December through March, and only when permit conditions are met. SVID was granted a 5-year temporary diversion permit for this project in December 2025, allowing for a longer period of operation for this project under a single permit (included as **Attachment 4**).

This project is supported by an established monitoring network, including streamgages, measurement of ditch diversions, continuous groundwater level and temperature monitoring, water quality and isotope sampling, and a comprehensive biological monitoring plan developed in collaboration with the local Scott River Water Trust. This monitoring has demonstrated the program's potential not only to enhance underground water storage and model scenarios using the Scott Valley Integrated Hydrologic Model have demonstrated the return of recharged water to support instream flows. This monitoring has demonstrated the program's potential to enhance underground water storage, and model scenarios using the Scott Valley Integrated Hydrologic Model have demonstrated the return of recharged water to support instream flows.

This project proposes to expand the existing MAR program by developing new recharge sites in upland gulches farther from the river than SVID's current infrastructure-convenient sites. Hydrologic modeling completed by Shubham Tiwari, Ph.D. (see **Attachment 3**), shows that recharge site location strongly controls how long infiltrated water is retained in subsurface storage before returning to the river. Sites closer to the river tend to return water to the channel within a shorter time after recharge (a "return-dominated" response), while more distant upland sites delay that return by months, releasing water gradually into the aquifer system and ultimately the river during the critical August–October low-flow period (a "storage-dominated" response). By developing recharge capacity in these upland gulch locations — which requires purchasing pumps and installing conveyance infrastructure to lift and deliver water beyond the reach of SVID's gravity-fed canal — this project is designed specifically to make the most of qualifying winter high-flow events and convert them into delayed, late-season baseflow support for the Scott River. This is particularly critical during periods of drought, when snowpack is lower and water is less available to support instream flows. **This project builds the infrastructure needed to maximize the SVID recharge project's potential, improving groundwater storage and instream flow resilience—particularly during drought.**

10-Year Average Annual Water Supply

The table below presents the Scott Valley Irrigation District's (SVID) annual surface water supply. Surface water supply figures are derived from total annual diversion records available through the California Water Accounting, Tracking, and Reporting System (CalWATRS). SVID users rely on a combination of surface water and groundwater; however, because groundwater use is not recorded and reported in the same manner as surface water, corresponding groundwater values are not available.

Table 1: 10 year average water supply

Water Year (October through September)	Surface Water Total (AF)	SVID Groundwater (AF)	Recycled Water (AF)	Other (AF)	Total (AF)
2016	9,393	NM	0	0	9,393
2017	10,736	NM	0	0	10,736
2018	5,356	NM	0	0	5,356
2019	7,945	NM	0	0	7,945
2020	7,844	NM	0	0	7,844
2021	6,638	NM	0	0	6,638
2022	4,216	NM	0	0	4,216
2023	8,440	NM	0	0	8,440
2024	9,798	NM	0	0	9,798
2025	6,814	NM	0	0	6,814
Average					7,718

NM= not measured

Project Location

The project is located within the Scott Valley Irrigation District service area on the eastside of Scott Valley, Siskiyou County, California, along the base of the eastside foothills adjacent to SVID's approximately 14-mile unlined canal. The Scott River flows north through the valley toward its confluence with the Klamath River. The project encompasses two upland gulches, which will be utilized to expand groundwater recharge and the central coordinates for these locations, and approximate area available for recharge are included in the **Table 2**. This total will account for over half of

the total permitted allowable volume, with the objective of increasing use of the full permitted 5,400 AF. These central coordinates are located (to the nearest mile) 4 miles from Fort Jones and 9 miles from Etna for Shell Gulch and 8 miles from Fort Jones and 4 miles from Etna for Heartstrand Gulch.

Table 2: Project Location Details

Location Name	Central Coordinates	Area (acres)	Expected Recharge (acre-feet) ¹
Shell Gulch	41.501661°, -122.832397°	161	1,428
Heartstrand Gulch	41.484755°, -122.820683°	118	1,428

1. Assuming qualifying flow conditions are met for the full 90 days of recharge, per terms in the diversion permit (see **Attachment 4**) and assumes maximum flow rate per gulch of 8 cfs.

A map of the existing project area and the proposed additional upland sites is included in **Figure 1**.

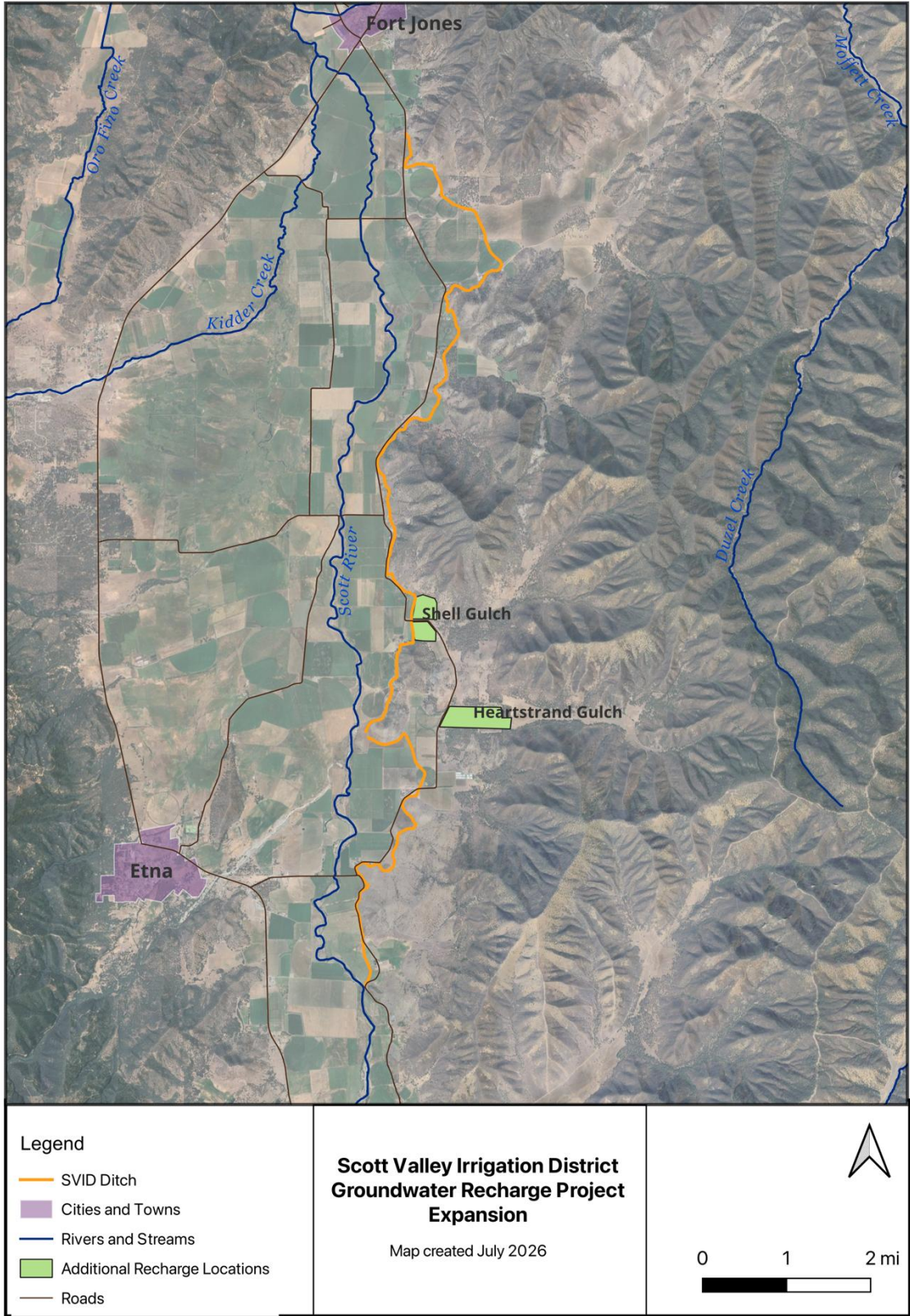


Figure 1: SVID Recharge Project Proposed Upland Sites for Expansion

Technical Project Description

Goals and Objectives

- **Objective 1:** Expand SVID's managed aquifer recharge program into upland gulch locations that provide delayed, storage-dominated hydraulic connectivity to the Scott River, rather than the rapid, return-dominated response characteristic of infrastructure-convenient sites closer to the canal.
 - Objective 1a: Convert available winter and early-spring high flows (mid-December–March) into extended subsurface storage that is gradually released to support Scott River baseflows during the critical August–October low-flow period.
 - Objective 1b: Install the pumps and conveyance infrastructure required to deliver water from the existing SVID canal to upland recharge sites that are beyond the reach of gravity diversion.
- **Objective 2:** Conduct monitoring necessary to track water applied to the upland gulch locations and accurately quantify total volumes and associated benefits.
- **Objective 3:** Build on and extend the hydrologic evidence base (SVIHM modeling, Stream Depletion Function screening) developed for the District's MAR program to guide future site selection and support the Scott Valley Groundwater Sustainability Plan's sustainable management goals.

Site Selection

Site Selection — Stream Depletion Function Screening. Effective MAR site selection requires identifying recharge zones where infiltrated water reaches the Scott River during the dry season rather than immediately following recharge. To guide this selection, the Stream Depletion Function (SDF), a screening method previously used in Scott Valley to assess stream depletion patterns under spatially distributed groundwater pumping and recharge scenarios (**Attachment 3**)¹. SDF quantifies the delay between groundwater recharge and its hydraulic response in the stream, using the analytical formulation of Jenkins (1968), which is a function of the distance to the nearest stream, aquifer storativity, and aquifer transmissivity. Using SVIHM-derived transmissivity and storativity parameters, a spatially distributed SDF map for Scott Valley was generated. Low SDF values indicate rapid stream response and are unsuitable for MAR sites intended to support delayed baseflow; high SDF values indicate delayed stream response and are optimal for seasonal streamflow augmentation. From this mapping, two upland gulch zones with comparatively high SDF values have been identified as promising sites, offering delayed hydraulic response, strong eventual stream connectivity, and practical feasibility for implementation¹.

¹ Shubham Tiwari, Stream Depletion Function (SDF) for MAR Site Selection in Scott Valley (2025). See **Attachment 3**.

This approach is consistent with, and builds directly on, SVIHM modeling previously conducted for SVID's existing recharge program, which found that recharge site location influences the timing of streamflow benefit.

Materials, Equipment, and Installation

Existing Infrastructure. SVID currently conveys Scott River diversion water to its established managed aquifer recharge (MAR) sites entirely by gravity flow through the District's approximately 14-mile unlined canal system. No pumped conveyance currently exists to reach the two proposed upland gulch sites, Shell Gulch and Heartstrand Gulch, as both are located at elevations and distances beyond the reach of the existing gravity-fed system.

Proposed Upgrade. The project will add pumped conveyance infrastructure to extend SVID's existing recharge program to these two upland sites. This includes procurement and installation of at least two pumps, along with associated conveyance piping and/or channel improvements connecting the SVID canal to each gulch site. The existing canal and diversion infrastructure will continue to be used unmodified to divert and convey Scott River water to the point of connection; the new pumps and pipeline will transfer water from that point to the recharge sites. Supporting monitoring equipment will also be installed at each site, including flowmeters to measure water applied for recharge and pressure transducers to track groundwater levels and conditions.

Site Preparation. Prior to final design and procurement, site visits will be conducted at both Shell Gulch and Heartstrand Gulch to field-verify proposed pump locations, conveyance routes, staging and laydown areas, and points of connection to the SVID canal. Final engineering design, including pump specifications and conveyance pipeline or channel alignment, sizing, and material selection, will be completed following these site visits.

Installation Equipment. Installation will require motorized equipment to place and connect the pumps, and to install the conveyance piping or channel improvements, most likely including excavation equipment for trenching or channel work along the conveyance alignment between the canal and each recharge site.

Site Laydown, Mobilization, and Construction Impacts. Staging, laydown, and mobilization areas for both sites will be identified during the site visits described above and confirmed prior to construction. Installation will proceed in a site-based phased approach, so Shell Gulch and Heartstrand Gulch will not necessarily be worked simultaneously, limiting the construction footprint at any one time. Areas of construction impact are expected to be limited to the conveyance corridor between the SVID canal and each recharge site and the immediate pump installation footprint at each point of connection. Significant removal of materials is not anticipated.

Project Scope: Design and Construction

This application requests funding for both finalizing design and construction of the pump and conveyance infrastructure and associated recharge sites, to be completed within the award period, consistent with the Construction Start Date Limitation in this NOFO (construction may not begin before approximately July 2027, 12 months after the submission deadline). This design-and-construction scope is intended to position the project competitively under Criterion G (Construction Priority), which favors hard-infrastructure proposals completable within the award period, and Criterion D (Readiness to Proceed). Many design elements have already been completed including site selection, location for the pump and preliminary conveyance and pump options. The work that will be completed under this application includes the following components:

1. **Environmental Compliance and Outreach.** While additional permits are not anticipated to be required for this project, written confirmation may be required for the additional gulch sites, specifically Heartstrand Gulch, since Shell Gulch was already identified by name in the 5-year temporary permit application.
2. **Planning and Design.** Building on the preliminary pump siting and conveyance options already identified, the District will finalize engineering design for both upland gulch sites, including pump specifications, and conveyance pipeline or channel alignment, sizing, and material selection.
3. **Site visits** to field-verify proposed pump locations, conveyance routes, staging and laydown areas, and to confirm site conditions prior to finalizing design and beginning procurement. The points of connection to the SVID canal at both Shell Gulch and Heartstrand Gulch.
4. **Installation of at least two pumps and the associated conveyance piping** and/or channel improvements connecting the SVID canal to the Shell Gulch and Heartstrand Gulch recharge sites, together with supporting monitoring equipment, including flowmeters to measure water applied for recharge and pressure transducers to track groundwater levels and conditions at each site. Installation components will likely include an intake and screen, filtration unit, electrical pump and associated electrical work and controls, and piping and fittings for conveyance.
5. **Hydrologic Modeling and Data Evaluation.** Use of the SVIHM to evaluate and optimize water delivery timing and volumes at the two upland recharge locations as installation and monitoring data become available, and to evaluate resulting benefits to groundwater storage and instream flow augmentation.

Merit Review Criteria

Criterion A — Severity of Drought and Impacts (15 points)

Recent and Existing Drought Conditions

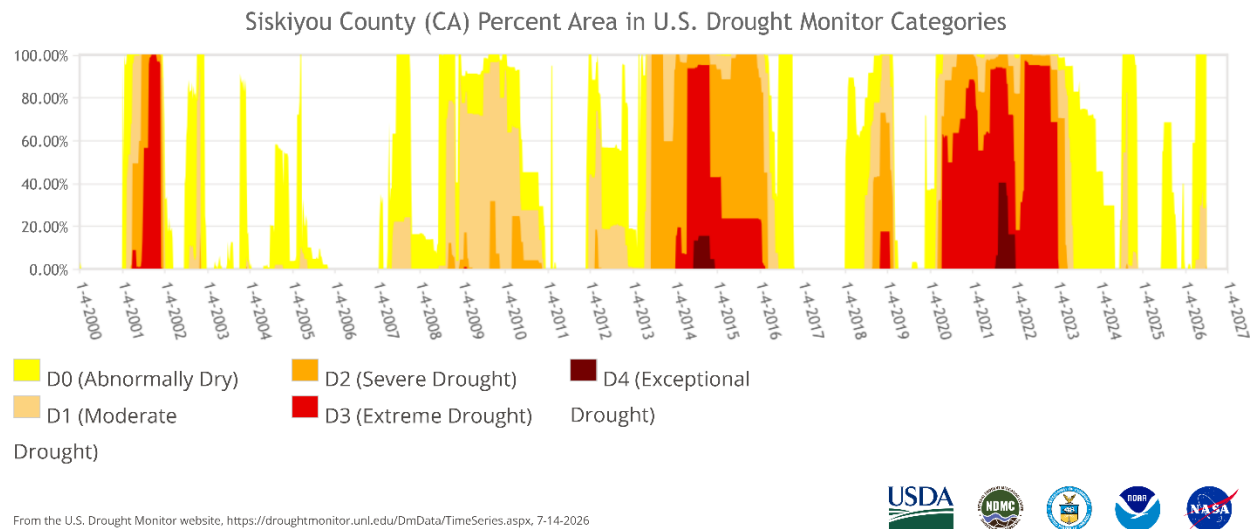


Figure 2: Drought Monitor for Siskiyou County

Recent and existing drought conditions (from 2000 to present) for Siskiyou County are shown in the above **Figure 2**. Three multi-year episodes stand out in the record. In 2001, county area in D3 (Extreme Drought) or worse peaked at 99.9% (week of September 11, 2001) – effectively the entire County was in extreme or exceptional drought. During the 2012–2016 California drought, the county again experienced a prolonged, multi-year period of extreme drought, with large portions of Siskiyou County reaching D3 (Extreme) conditions. The most severe episode on record began in March 2020 and did not fully resolve until May 2023: Siskiyou County spent 164 consecutive weeks (over three years) with some portion of the county in D2 (Severe Drought) or worse, including a peak of 40.4% of the county in D4 (Exceptional Drought) and a record DSCI of 434 out of a maximum of 500 during the week of August 17, 2021. As of the most recent USDM release used in this application (week of July 7, 2026), 100% of Siskiyou County remains in D0 (Abnormally Dry) conditions, with 31.4% in D1 (Moderate Drought) and 2.3% in D2 (Severe Drought) – the county has not returned to drought-free status even between its most severe episodes (U.S. Drought Monitor, 2026)².

The Scott River watershed has experienced severe drought conditions recurring over the past two decades, with impacts on both agricultural water users and instream flows for ESA-listed salmonids. The Scott Valley Groundwater Basin was assigned a

² Available: <https://droughtmonitor.unl.edu/DmData/TimeSeries.aspx>

designation as a medium-priority basin under SGMA, in part due to flows in Scott River and species reliance on these flows³.

Low summer and fall flows in the Scott River directly limit habitat availability and increase water temperatures for rearing juvenile coho and Chinook salmon, both ESA-listed species. Groundwater discharge to the river during this period plays an outsized role in sustaining suitable channel conditions. SVID's existing temporary SWRCB permits only allow recharge diversions from mid-December through March, and only when flow at the USGS Fort Jones Gage exceeds 440 cfs. This limited timeframe underscores the need to maximize the value of recharge conducted each year, which is the driving rationale for this project's upland gulch expansion.

In direct response to the Governor's May 2021 proclamation, the SWRCB adopted an emergency regulation establishing minimum instream flow requirements and curtailment authority for the Scott River and Shasta River watersheds on August 30, 2021, in recognition of their importance as coho salmon habitat. The regulation has been readopted since (2022, February 2024, and January 2025), and its authority was extended by the California Legislature through January 1, 2031 via Assembly Bill 263; curtailment orders have been issued under it in 2021, 2022, 2023, and 2024 (California State Water Resources Control Board, 2026). This regulatory history is independent, external confirmation – beyond the USDM record alone – that drought conditions in this specific watershed have been severe and frequent enough to repeatedly trigger state emergency action.

Projected Increases in Drought Severity or Duration: The Scott River is part of the Klamath River Basin, one of eight major river basins assessed in Reclamation's own Water Reliability in the West – 2021 SECURE Water Act Report. Relative to the historical baseline (1950–1999), that assessment projects basin-wide warming of about 2°F in the early 21st century, 3°F at mid-century, and more than 4.5°F (range 2.5–10°F) by the century's end; April 1 snow water equivalent – the snowpack that sustains late-season baseflow – is projected to decline 30–40% by the 2030s and nearly 60% by the 2070s, with more winter precipitation falling as rain rather than snow, shifting runoff earlier in the season (U.S. Bureau of Reclamation, 2021). For a project whose entire recharge opportunity depends on a narrow January–March high-flow window at 440 cfs or greater, an earlier, more rain-dominated runoff regime is expected to further compress that window and increase year-to-year variability in the volume of water available for recharge.

Local Impacts of Drought

- **Environmental impacts:** Reduced late-season baseflows and elevated water temperatures directly affect ESA-listed coho and Chinook salmon rearing and migration in the Scott River.

3

<https://dwr.maps.arcgis.com/apps/instant/sidebar/index.html?appid=9600ae4816044e47bc75e2f441d44327>

- **Voluntary, locally-driven solutions:** The GSP and this project's MAR approach are intended to address water limitations through voluntary, locally-driven groundwater recharge.
- **Social concerns:** The Scott Valley Groundwater Sustainability Plan's dry-well risk analysis, prepared by the Siskiyou County Groundwater Sustainability Agency, found that most Scott Valley wells reached their lowest recorded groundwater levels in fall 2014 and fall 2015 (recovering by fall 2017), and that a further five-foot decline in water levels below those historic lows would place approximately 1% of the valley's roughly 1,000 domestic wells (about 10 wells) and 1% of agricultural wells (about 2) at risk of outage, with risk concentrated among the shallowest wells in the valley (see Appendix 3-C of the Siskiyou County Groundwater Sustainability Agency, Scott Valley GSP for more information).⁴
- **Economic losses:** SWRCB curtailment orders issued under the Scott/Shasta emergency regulation have directly restricted agricultural surface-water and groundwater diversions in Scott Valley in most years since 2021 (California State Water Resources Control Board, 2026). The State Water Board's Proposed Scott River and Shasta River Watershed Emergency Regulation: Finding of Emergency and Informative Digest from 2024 found that potential crop-revenue losses in the Scott and Shasta River watersheds, based on forecasted streamflow under different scenarios, may be \$5 million under an expected-range scenario and up to around \$8.5 million under an extreme-drought scenario (California State Water Resources Control Board, January 2024).⁵

Criterion B — Project Benefits (20 points)

Estimated Quantity of Additional Supply

The goal of the fully upscaled recharge program is to apply 5,400 AF annually to fields for recharge from January through March, subject to the availability of qualifying flows (greater than 440 cfs at the USGS Fort Jones Gage). Actual recharge volumes to date have fallen well short of that 5,400 AF target in most years. This project increases both the area available for recharge and the benefit of the recharge areas (longer delay reaching the river and support instream flows). These additional recharge locations, with the pump and conveyance specifications are anticipated to handle 2,856 of the 5,400 AF program-wide goal and will be the priority locations to optimize the benefits of recharge with the delayed benefit as described above and in **Attachment 3**.

Percentage of Total Water Supply

⁴ Available:

https://www.siskiyoucounty.gov/sites/default/files/fileattachments/natural_resources/page/28347/appendix_3-c._scott_valley_dry_well_risk_analysis.pdf

⁵ Available:

https://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/scott_shasta_rivers/docs/2024/ssd-digest-01122024.pdf

The target recharge volume is 1,428 AF per upland gulch site, or a total of 2,856 AF per year. This represents a total of 37% of the average water supply of 7,718 AF (see **Table 1**, reliant on surface water measurements only). This is summarized in **Table 3**, below.

Table 3: Project benefit in terms of water yield.

Item	Value
Total Project Maximum Water Yield (AFY)	2,856
SVID Average Annual Water Supply (AFY) ¹	7,718
Percentage Yield	37%

1. This relies on surface water measurements only, average is calculated using data from 2016 through 2025, see **Table 1**.

Long-Term Drought Resilience

Stream Depletion Function screening and SVIHM modeling demonstrate that recharge site selection materially affects the durability and timing of the resulting streamflow benefit. Upland gulch sites with high SDF values are expected to retain most of the recharged water in temporary subsurface storage for months before it reaches the river, rather than returning it within the same recharge season. This means water recharged at these sites provides steadier, better-timed late-season streamflow support rather than a sharp spring rebound — directly building multi-month drought resilience rather than a short-term flow pulse and specifically targeting the August–October window when Scott River flows and salmonid habitat are most constrained. Operation of this project provides an implementable option to build long term-resilience to low-summer flows, particularly during drought years. Water available for diversion during the recharge window varies from year to year, particularly in winters when flow thresholds are met less often. However, diversions under this project have occurred in recent years despite some flow constraints; volumes have also been limited at times by ditch maintenance and field flooding (issues not relevant to the upland gulch sites), among other factors unrelated to flow thresholds.

Water Users and Sectors Benefiting

Direct beneficiaries include SVID's approximately 14 agricultural customers, who benefit from a more resilient regional water supply and the Scott River's ESA-listed coho and Chinook salmon populations, which benefit from enhanced late-season baseflow and are expected to benefit from resulting cooler water temperatures from increased groundwater contribution to instream flows. The project also supports the Scott Valley Groundwater Sustainability Agency's basin-wide sustainability goals under the GSP.

Years of Benefit / Buffer Against Shortages

The project's recharge infrastructure is expected to provide benefits for the operational life of the pumps and conveyance system. This infrastructure is expected to have a useful life of 20-30 years, consistent with typical pump and pipeline design life.

The recharge project is anticipated to continue to be a major project as part of Scott Valley's Groundwater Sustainability Plan implementation, which runs to 2042 (20 years from the adoption of the Groundwater Sustainability plan). This will be critical to utilizing winter flows to build storage and offset dry-season low flows. Implementation of this project is intended to proactively increase groundwater that is then available during summer and fall months to support instream flows. This additional support to flows in Scott River is intended to buffer against potential emergency flow regulations and curtailments, which are implemented by the State Water Resources Control Board when flows fall below the minimum threshold, impacting agricultural users in the area.⁶

Criterion C — Planning and Support (10 points)

Task A projects are evaluated under Sub-Criterion C.1.

Plan Description and Objective

This project is supported by the Scott Valley Groundwater Sustainability Plan (GSP), submitted to the California Department of Water Resources in December 2021 and approved in April 2023. The GSP covers the Scott Valley Groundwater Basin and is updated on the state's required five-year cycle. Its purpose is to bring the Scott Valley groundwater basin, designated medium-priority under SGMA, into sustainable management by 2042, addressing chronic groundwater level declines and their effects on beneficial uses, including the Scott River's instream flows for ESA-listed salmonids. The GSP identifies managed aquifer recharge as a priority sustainable management action for the basin, and SVID's MAR program — of which this project is an expansion — directly implements that priority. This is a critical project to move the Basin into sustainability as related to the interconnected surface water depletion sustainability indicator. The GSP (both plan development and now implementation) was and is led by an Advisory Committee, comprised of a diverse group of stakeholders including agricultural users, landowners, Tribes, and environmental representatives. The GSP monitors sustainability indicators related to groundwater resources in the Basin, including indicators of water availability, and tracks the impacts of drought on these resources. Additionally, the GSP includes projects intended to improve groundwater resources and interconnected surface waters, and to build resilience against drought.

Plan Development Process

The Scott Valley GSP was developed by the District, acting as the Scott Valley Groundwater Sustainability Agency, through a collaborative process involving agricultural water users, the Scott Valley Groundwater Advisory Committee, environmental and Tribal stakeholders, and technical consultants. SVID participated in this process through agricultural stakeholders and as the MAR program operator in the basin.

Project Identification and Prioritization in Plan

The SVID managed aquifer recharge project is a high priority in the GSP, cited in both Chapter 3 as a strategy to address interconnected surface water depletion and in

⁶ https://www.waterboards.ca.gov/drought/scott_shasta_rivers/curtailment_addenda/

Chapter 4 as one of the key projects and management actions. The project directly addresses efforts to achieve measurable objectives for the interconnected-surface water sustainability indicator⁷.

Stakeholder Support

This project was included in the Scott Valley Groundwater Sustainability Plan (GSP) as a key project and management action, especially related to addressing the depletion of interconnected surface waters sustainability indicator. The GSP (and associated project and management actions) was generated, discussed, and supported through a stakeholder group (the Advisory Committee) made up of diverse stakeholders representing different interests including agriculture, environmental, and tribal representatives. The GSP is in the implementation phase and meetings with the Advisory Committee continue to be held quarterly. The cost share for this project is from the GSA funding. SVID is supportive of the project (letter of support included as **Attachment 1**).

Work has been initiated with SVID and stakeholders in the Basin to map out initial pump locations, conveyance plans, and recharge sites for this upland expansion. As mentioned previously, this project builds on the existing SVID Recharge Project and this expansion is supported by SVID, who will engage in both the project development and on-the-ground implementation (see **Attachment 1**). This expansion will be discussed at an Advisory Committee meeting with the GSA to ensure incorporation of a diverse set of stakeholders.

Criterion D — Readiness to Proceed and Project Implementation (15 points)

Implementation Plan and Schedule

The following table presents the anticipated schedule for project tasks, consistent with the Project Timeline described above and the NOFO's Construction Start Date Limitation.

Task	Description	Planned Start Date	Planned Completion Date
1	Environmental Compliance and Outreach	July 2027	December 2027
2a	60% Final Design	July 2027	October 2027
2b	100% Design Plan	November 2027	March 2028
3	Site Visits	July 2027	August 2027

⁷ The Scott Valley GSP is available here: <https://sgma.water.ca.gov/portal/gsp/preview/89>

Task	Description	Planned Start Date	Planned Completion Date
4a	Installation of Pumps	July 2028	August 2028
4b	Installation of Conveyance Pipeline	August 2028	October 208
5	Hydrologic Modelling and Data Evaluation	January 2028	June 2030

Permits and Approvals

SVID's existing MAR program operates under a 5-year temporary permit from the State Water Resources Control Board authorizing diversion and underground storage of Scott River water. Diversions for recharge will follow the terms of this permit, including criteria for diversion, and limitations to the total volume and rate of water diverted from the Scott River into the SVID ditch. This 5-year temporary permit references Shell Gulch by name but written permission may be required to add Hearstrand gulch (also located along the SVID ditch). No additional permitting is anticipated to be required; both CEQA and a Lake and Streambed Alteration Agreement have been completed for the existing iteration of this managed aquifer recharge project. The following table includes a list of permits and associated compliance plan for this project.

Permit / Approval	Applicable?	Compliance Plan
National Environmental Policy Act	Not anticipated	Coordinate with Reclamation if required.
Endangered Species Act, Section 7	Not anticipated	No effect to listed species anticipated, apart from benefit from instream flow augmentation.
National Historic Preservation Act, Section 106	Not anticipated	Coordinate with Reclamation if required.
Clean Water Act, Section 404	Not applicable	No dredge or fill
Clean Water Act, Section 401	Not applicable	No discharge.
CA Fish and Game Code Section 1600	Not applicable	Work is along the irrigation ditch, not along the stream. A Lake and

Permit / Approval	Applicable?	Compliance Plan
		Streambed Alteration Agreement is already in place for the current SVID Recharge Project.
California Environmental Quality Act	Not anticipated.	A CEQA Initial Study Negative Declaration was completed in 2024 for the current iteration of the SVID recharge project.

Engineering or Design Work Completed

Engineering and design work for this project is at a preliminary, conceptual stage. Site selection for both upland gulch recharge locations, Shell Gulch and Heartstrand Gulch, has been completed through the Stream Depletion Function screening described above, which identified the central coordinates, approximate recharge acreage, and expected additional recharge volume for each site (see Table 2 and **Attachment C**). Building on this site selection, the District and its project team have identified preliminary pump siting and conveyance options connecting the SVID canal to each upland gulch, but final pump specifications and conveyance pipeline or channel alignment, sizing, and material selection have not yet been developed. However, communication with an engineering firm that is available locally has been conducted for a schedule and budget estimate and both the final design and construction are well able to be completed within the target timeframe. Under this application, the District will finalize this design during the Planning and Design task described above and, in the Project Schedule following field verification of site conditions during scheduled site visits. Final design is anticipated to be substantially complete by spring of 2028 ahead of pump procurement and installation beginning in July 2028.

Existing Program Infrastructure and Monitoring

The project builds on an established program with existing infrastructure and monitoring capacity, supporting readiness to proceed. SVID's MAR program already operates streamgages, ditch diversion measurement, continuous groundwater level and temperature monitoring, water quality and isotope sampling, and a comprehensive biological monitoring plan developed with the local Scott River Water Trust. This existing network can be extended to the new upland gulch sites to track recharge performance and stream response, reducing the monitoring buildout required for this project.

Land Purchases and Federal Lands and Facilities

This project does not require land purchases and is not located, completely or partially, of Federal lands or federal facilities.

Approach to Ensuring Compliance with the National Environmental Policy Act, Endangered Species Act, Clean Water Act, National Historic Preservation Act, and other State and Federal laws

No archeological or culturally significant sites are known in the expanded recharge area. A cultural site assessment was completed as part of the Initial Study/ Negative Declaration that was prepared for the SVID Recharge Project (in it's initial conception without the upland gulch locations) and an update to this assessment will be conducted to include the expanded fields.

Based on IPaCs's ecosphere online tool⁸, there are no critical habitats in the project area. However, there are endangered and threatened species including migratory birds, the Northwestern Pond Turtle, two species of eagles and several crustaceans. This project is not anticipated to impact any of the listed species due to minimal disturbance and mostly along an existing irrigation ditch and agricultural lands.

All other permit terms and conditions and state agency requirements will be followed as part of the temporary diversion permit requirements.

Criterion E — Nexus to Reclamation (5 points)

Although the project area does not fall within a Reclamation project service area, the instream flow benefits generated in Scott River propagate downstream to the Klamath River. Increased flow contributions to the Klamath River provide direct downstream benefits, enhancing habitat availability and spawning conditions for ESA-listed Chinook and coho salmon. These improved conditions support salmonid populations throughout their migratory life cycle as they travel through the Klamath River to the Pacific Ocean.

Criterion F — Presidential and Department of Interior Priorities (20 Points)

F.1 Unleashing American Energy: sustaining agriculture and the efficient use of energy (Executive Order 14154). Agriculture is the largest economic driver of Scott Valley, and groundwater pumping to meet irrigation demand, particularly during dry and late-season periods when surface water is limited, is a major source of on-farm energy use. As groundwater levels decline, the energy required to lift water increases correspondingly, compounding rising energy costs for producers. By expanding managed aquifer recharge into upland gulch sites, the Project increases the volume of high-flow season water captured and stored in the aquifer, sustaining groundwater levels and reducing the pumping lift required for agricultural extraction. This more efficient use of energy supports the long-term viability of Scott Valley's agricultural economy and the rural community it sustains.

F.2 Improving Oversight in Federal Grantmaking (Executive Order 14332). The Project is structured for transparency and accountability consistent with Executive Order 14332. It produces concrete, measurable deliverables, including engineered designs for upland gulch recharge infrastructure, and recharge volume and streamflow monitoring data; it applies established managed aquifer recharge and hydrologic monitoring methods

⁸ <https://ipac.ecosphere.fws.gov/location/HDP4ZMCJ5BHKHHACWVZSX57MAI/resources>

with predictable costs; and it provides clear metrics, such as acre-feet recharged and late-season flow contribution to the Scott River, for verifying that Federal funds achieve their intended purpose. The investment is also a durable one: by expanding the physical infrastructure available for managed recharge, a one-time Federal contribution builds lasting capacity for Scott Valley Irrigation District and the Siskiyou County Flood Control and Water Conservation District to advance the goals of the Scott Valley Groundwater Sustainability Plan using local management, rather than relying on recurring costs associated with State intervention.

F.3 Secretarial strategic objectives (Secretarial Orders 3417, 3418, 3419) and DOI Strategic Plan alignment. The Project advances the Department of the Interior's FY2026-2030 Strategic Plan emphasis on the science-informed, efficient management of the nation's water resources and its continued commitment to Klamath Basin restoration. By expanding managed aquifer recharge into upland gulch sites, the Project increases late-season groundwater contributions to instream flow in the Scott River, directly supporting habitat and spawning conditions for ESA-listed Chinook and coho salmon that migrate through the Klamath River system. In advancing a locally led, science-based solution that supports both agricultural water users and Federal salmon recovery objectives, the Project reflects the Department's strategic priority of achieving durable, cooperatively developed outcomes for the nation's water resources.

F.4 Water management and operational flexibility in Reclamation States. Although the project area does not fall within a Bureau of Reclamation project service area, the Project supports water management and operational flexibility in the Western United States by expanding the tools available to Scott Valley to respond to dry and wet years with greater precision. Instream flow benefits generated in the Scott River propagate downstream to the Klamath River, a Reclamation project water source; increased late-season flow contributions to the Klamath River provide direct downstream benefits, supporting ESA-listed Chinook and coho salmon populations as they migrate through the Klamath River system. By adding upland gulch sites to SVID's existing managed aquifer recharge program, the Project allows Scott Valley Irrigation District to target recharge to specific locations and timing rather than relying on a single uniform approach, and to demonstrate measurable progress under the Scott Valley Groundwater Sustainability Plan. Advancing these locally led improvements helps keep groundwater and instream flow management in the hands of local stakeholders, consistent with the operational flexibility this priority is intended to support.

Criterion G — Construction Priority (10 Points)

This project requests funding for both design and construction of hard infrastructure — pump procurement and; installation, and conveyance improvements — that delivers a durable, long-term improvement in water reliability and resilience for the Scott River and SVID's service area. These construction components are intended to be completed within the allowable project duration, consistent with the NOFO's Construction Start Date Limitation.

The hard-infrastructure components of this project — procurement and installation of at least two pumps and the conveyance piping and/or channel improvements connecting the SVID canal to the Shell Gulch and Heartstrand Gulch recharge sites — are

scheduled to begin construction in July 2028, following completion of final design, environmental compliance confirmation, and site visits, with completion anticipated well before June 2030 for installation (see Project Schedule above). These components can realistically be completed within the award period and are consistent with the Construction Start Date Limitation, which precludes construction from beginning before approximately July 2027. Preliminary work with SVID and stakeholders have already identified locations for the pumps and conveyance routes to the selected upland fields and both finalizing design and completing construction is very achievable within the timeframe identified.

Criterion H — Cost Share Priority (5 Points)

Non-federal cost share makes up a total of 55% of the project cost. The calculation of non-federal funding divided by total project cost is shown below.

$$\frac{\text{Non – Federal Funding Contribution}}{\text{Total Project Cost}} = \% \text{ of Non – Federal Cost Share}$$

$$\frac{\$609,030}{\$1,107,230} = 55\%$$

Environmental and Cultural Resources Compliance

See Criterion D above for a discussion of permits and approvals anticipated for this project.

Required Permits or Approvals

Please see Criterion D above for a discussion of permits and approvals anticipated for this project.

Overlap or Duplication of Effort Statement

To avoid duplication of effort, this application has been designed to complement, rather than overlap with, two related but distinct funding efforts currently underway or under consideration in Scott Valley. First, the National Fish and Wildlife Foundation (NFWF) awarded a grant to the Siskiyou County Farm Bureau in early 2025 for the project "Scott Valley Irrigation District Managed Aquifer Recharge and Water Conservation," with a project period of July 2025 through July 2027. That grant supports continuation of existing groundwater recharge activities and implementation of irrigation efficiency improvements. This application is distinct in scope, addressing the design and infrastructure requirements necessary to expand recharge operations into previously untapped upland gulch sites.

Second, the Farm Bureau is evaluating a potential application to the Wildlife Conservation Board (WCB) Streamflow Enhancement Program to fund planning-level work associated with in-lieu recharge—the substitution of surface water for groundwater in irrigation—and associated restoration activities. This application remains distinct from that effort as well: whereas the WCB planning effort would address irrigation source-water substitution, this application focuses on the physical expansion of winter groundwater recharge infrastructure into upland gulch sites.

Collectively, these efforts form part of an integrated, multi-pronged strategy among SVID, the Farm Bureau, and the Scott Valley groundwater basin stakeholders to advance drought resiliency and groundwater sustainability, with each funding source addressing a discrete and non-overlapping component of the broader strategy.

Conflict of Interest Disclosure

There are no known conflicts of interest regarding this application or potential award, consistent with 2 CFR 200.112 and 200.113.