Annual Implementation Report (AIR)

Prepared by NOAA's National Marine Fisheries Service

April 30, 2025

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Summary Report for the Shasta River Template Safe Harbor Agreement Implementation in 2024

Per Section 6.6.4 of the Shasta River Template Safe Harbor Agreement (SHA), each year NOAA's National Marine Fisheries Service (NMFS) will review reports provided by Permittees and the Shasta Watershed Conservation Group (SWCG) and prepare a public Annual Implementation Report (AIR), documenting implementation of the Site Plan Agreements and actions taken toward achievement of Net Conservation Benefit. Appendix A of this report are data submitted by permittees from Effectiveness Monitoring stations and Appendix B includes diversion monitoring data submitted by permittees. Major Beneficial Management Activities (BMAs) accomplished (by Entity) during this reporting year as reported by SWCG include:

Permit # 23287 Montague Water Conservation District (MWCD)

MWCD provided 4,337+ acre feet of cold water at temperatures under 18 degrees C. to the Shasta River, lined over 6,000" of the main canal, and upgraded and maintained effectiveness monitoring sites on the Shasta River and Parks Creek.

Contact Person: Gary Black

Permit # 23290 Emmerson Investments Inc. (Seldom Seen Ranch)

EII presented the same requirements and actions that are reported for Hole in the Ground Ranch.

Contact Person: Len Lindstrand

Permit #23285 Hidden Valley Ranch (HVR)

Hidden Valley Ranch continued to perform required activities within its site plan. With the improved water availability from spring flows, HVR continued to contribute significant cold water flows to the alcove area as well as the downstream area below the alcove. Beavers continued to show activity in the areas of the spawning beds project area, causing inundation of the riparian plantings and some erosion to stream banks, especially at dam #3 which was breached and not repaired by the beavers. Photos were included in the ranch annual report. HVR assisted with supplying the SVRCD with cuttings for a riparian planting project elsewhere along the Shasta River. Of continued concern is the lack of the 1707 application approval as yet. Without this in place, the cold-water exchange project cannot be fully implemented. While the infrastructure for the program is in place, it has yet to be utilized due to plentiful flows and not meeting the criteria to initiate the exchange over the past year. However, if weather conditions change creating the need to initiate the exchange, HVR and MWCD will have to work with the waterboard to come to some arrangement legally for the effort to proceed.

Contact Person: Jack Roggenbuck

Permit # 23286 EII - Hole -in-the-Ground (HIG)

HIG continued work through the USFWS Partners Program and initiated installation of additional riparian fencing along Parks Creek and Hole-in -the-Ground Creek. Approximately 6 miles of the 13-mile project are complete with the project continuing. HIG continued to work with MWCD, Cal-Trout, and NCRWQCB for a great to implement the diversion combine project. Final refinements to the grant agreement and related planning efforts are on-going as is the collaboration with Cal-Trout for the Mid-Shasta River Habitat Improvement Project (which includes lower Parks Creek). HIG continued to participate in survey and assessments within the Beaver Management Plan to include monitoring ongoing beaver activity and damage assessments. Active management Activities included assisting CADFW staff with small breaches at several dams to allow for fish passage.

Contact Person: Len Linstrand

Permit # 23278 Cardoza Ranch (CR)

While the Annual Report for the permittee's site plan was submitted to the Agencies, no information was supplied for inclusion to this report due to personal problems and computer issues.

Contact Person: Frank Cardoza

Permit # 23280 Grenada Irrigation District (GID)

GID faced some problems during the reporting year which caused the organization to perform monitoring manually. In the period, GID replaced flow sensors and flow meter console to operate more reliably and also record to CDEC. GID also applied for a temporary permit for winter water recharge and coupled with a grant application to begin installing soil moisture monitoring equipment in the GID foot print. This effort will also include biological monitoring near the diversion site in winter of 2025. An additional positive for GID was confirmation from CAL-TROUT that GID would be included in their Mid-Shasta Habitat Improvement Project with improvements slated to beginning spring, 2025. GID continued to work with Mid-Shasta irrigators and the water master on flow management. Of concern to GID is the continuing problem of finding partners to help secure the GID pumping project due in part to the current curtailment flows.

Contact Person: Rod Dowse

Permit # 23271: Outpost North Annex (Belcampo) (Withdrawn 11-3-23)

This Permit has been vacated due to the sale of the property with the new owners choosing not to participate in this effort.

Permit # 23284 Novy Ranches (NR)

Novy Ranches continued to meet commitments in the site plan within available resources and is still waiting for resources from grant applications to complete planned and existing projects. Grant funding delays have restricted implementation of projects designed to improve efficiencies.

Contact Person: Judy Novy-Holmes

Permit # 23289 Rice Livestock (RL)

Work continues for the Alternative Analysis for the Huseman Diversion. RL continues to work with Cal-Trout on funding for the Mid-Shasta Habitat Improvement Projects but was informed that funds were not available for the RL portion of the project area for 2024. RL will continue to stay engaged with Cal-Trout to obtain the funds for work on the RL portion of the project area. NRZ is getting closer to implementation of the new fish screen and pipeline project, however no date has been committed to as yet.

Contact Person: Brian Rice

Permit # 23434 NB Ranches (NBR)

While the Annual report for this permittee's site plan was submitted to the Agencies, no information was supplied for inclusion to this report.

Contact Person: Bill Nicoletti

Permit # 23279 Edson Foulke (EF)

Edson Foulke maintained its diversion structure and fish screen to the requirements of the Site Plan as well as managing minimum flows for the Upper Parks Creek Flow Management Strategy. Of concern was the difficulty in navigating the EYASCO/Grabdata site by restricting access to compile all the necessary data for annual reporting. Further, Agency reporting requirements for EF FOR THE UPPER PARKS CREEK REACH exceed the capability of the established $1,500 per permit per annum forcing EF to contract with another entity for monitoring services in order to comply.

Contact Person: Tim Neilson

Permit # 23288 Parks Creek Ranch (PCR)

The Nature Conservancy (TNC) assumed operations of the Parks Creek Ranch from Bel Campo in October 2024. Prior to the ownership change, Bel Campo performed duties identified in the site plan for the ranch and provided such information to TNC. Since assuming responsibility, TNC Made improvements to data collection through repair and maintenance activities through

the hiring of Gary Black and Water Course Engineering. Other efforts include LIDAR of Parks Creek to analyze restoration opportunities, completed a QAPP on Parks Creek Diversions PCR1 & 2 and effectiveness sites UPC, PME, and PCE. A range/grazing consultant was contracted to develop a productive grounds analysis and to inform TNC management of grazing practices to consider on the property. Future plans for the coming year include riparian fencing on the right side of Parks Creek (the left side is fenced already), apply for funding for three additional stock water systems to allow for livestock exclusion from Parks Creek, and applications for grants for ground water and soil moisture monitoring efforts to allow for better water management.

Contact Person: Amy Campbell

Permit # 23291 Emmerson Investments Inc. (Shasta Springs Ranch)

See above as the permits for EII presented the same requirements and actions and are reported as such.

Contact Person: Len Lindstrand

Grant success is still a problem primarily relating to monitoring efforts. SWCG can only sense the focus within the valley has shifted from the Safe Harbor work to the Klamath Dam Removal effort and the subsequent focus on habitat restoration work there. Concerns over data storage have also come to the forefront as such costs have yet to be fully identified and addressed. Internally, considerations for having the SVRCD be the place holder of collected data are being made.

Other difficulties continue with approvals coming from Agencies. Permit holders have not received the consistency determinations for unknown reasons to SWCG. Additionally, the 1707 applications allowing for water exchanges has yet to be finalized. The agency representatives of these efforts have not reached back to the participants to provide updates in the process or ask for information to move the process forward. This further leads SWCG to believe a shift in focus of the Agencies is to the Klamath Project effort, which we understand is of extreme importance. However, permit holders should not be held accountable for this shift in focus as it pertains to meeting habitat condition improvement projects without the necessary funding support, nor be found not in compliance with requested approvals from Agencies with the responsibility to process and approve such. Without such approvals, the permittees find it difficult if not impossible to move the needle in favor of habitat restoration in the TSHA project area.

Each permittee has filed their individual report in support of this summary report through which specific details of their individual activities were accomplished. The permittees are committed to continue to the best of their individual and collective abilities to achieve the overall goal of habitat improvement that provides for the restoration of the covered species, coho salmon. SWCG hopes for continued support from our Federal and State partners, as well as our partners at Cal-Trout, NFWF, TNC, NFWS, and others to achieve this goal.

2024 Status of Beneficial Management Activities for Shasta River Template Safe Harbor

The following sections contain summaries, by permittee, of the accomplishments and status reported on the 2024 Annual Reports received by NMFS in April 2025.

1. Montague Water Conservation District

Montague Water Conservation District (MWCD/District) is a public irrigation district that owns and operates Dwinnell Reservoir located in the southern portion of Shasta Valley and provides irrigation water to users within the district boundary, located in the northern portion of Shasta Valley with diversions on both the Shasta River and Parks Creek. MWCD owns Dwinnell Reservoir, the property under the high-water mark of Dwinnell Reservoir and the property along the Shasta River immediately below Dwinnell Reservoir where much of the water operations for the irrigation district occurs. The Site Plan Agreement (SPA) incorporates and extends MWCD's Conservation Habitat Enhancement and Restoration Project (CHERP) as well as additional measures proposed in the Safe Harbor Agreement. CHERP is a package of restoration projects MWCD has committed to and is currently implementing and will also be reported annually as SHA actions. CHERP actions are described in the SHA as baseline conditions.

For the purposes of this report, activities on MWCD Property have the potential to influence all sub-reaches identified in the Template Safe Harbor Agreement. See Table below for MWCD reported progress on SHA commitments.

Project Name	Project Description	Current Status	Description of Progress
Parks Creek Bypass Flows	Maintain bypass flows and additional bypass: 10/01 - 02/28 -- 6.0 cfs 03/01 - 09/31 -- 16.00 cfs	**In progress**	Sought grant funding to implement project so new flow commitments could be implemented. Rating curve at PME is being revised. MWCD uses PCE to assess base flow conditions for Parks Creek by-pass.

Project Name	Project Description	Current Status	Description of Progress
Flow Releases	Continue to release flows for enviro purposes per CHERP BiOp	**In progress**	MWCD interim commitments to Shasta River were conducted. The water year was considered normal with maximum storage of 33,000. MWCD provided 4,437 af for instream benefit to the Shasta River and provided agreed upon by-pass at Parks Creek.
Gage operations	Operate, maintain and keep the following gage locations: MPD, PME. DRE, SRX, SRD, DSW, DFB. Maintain and operate flow and temperature gauges to measure and verify prior rights, environmental water, Flying L pumps and seeps	**In progress**	SVRCD collected additional flow measurements in an effort to evaluate and develop rating curves at numerous sites. MWCD and TNC are working with Watercourse Engineering to rebuild curves on Parks Creek effectiveness sites.
Flying L	Connecting the Flying L pumps to the Shasta River to release up to 5.5 cfs of water with temperatures under 13.2 C when water released from Dwinnell exceed 18 C during the summer months	**Completed and Maintained**	Reporting is available. MWCD switched to using a McCrometer 3000 flow meter in 2022, which provides more consistent and accurate flow data. MWCD now starts the Flying L Pumps when water temps on Shasta verification gage exceed 16°C
Petition	Change petition for municipal and environmental water	**In progress**	Waiting for SWRCB process to continue. MWCD was part of Batch 1707 effort that has since ended but SWRCB has not made a determination. MWCD has spent countless dollars and hours trying to secure SWRCB approval to release flows for instream benefit to no avail.

Project Name	Project Description	Current Status	Description of Progress
Main Canal Lining	Line and maintain up to 8.4 miles of MWCD's Main Canal where delivery loss is highest. Provide 515 (value determined through loss investigations) af per mile of canal lined for instream benefit for life of Agreement	**In progress**	Over 5,000' of canal lining were installed in 2024. Additional reaches were funded. MWCD hopes to line the canal reaches needed to meet the lining objective in 2027. 2024 was a normal water year and 4,437+ af were provided for instream benefit. Water released to the Shasta River in 2024 was under 18° nearly the entire year. See data included in Appendix of this report.
Reach wide Diversion Management	Cold water substitutions with HVR and HIG ranches.	**In progress**	HVR infrastructure is ready for exchange if SWRCB approval is ever gained. Hole in the Ground Ranch hopes to install its conservation project in 2025 that will allow exchanges to be more beneficial to over summering objectives.
Flying L Groundwater Contributions	Complete, operate, and maintain "Flying L" Groundwater contributions for prior rights and/or instream flow releases, providing up to5.5 cfs of water with temperatures under 13.2 C when water released from Dwinnell exceed18 C during the summer months	**Maintained**	MWCD added alarms from Eyasco that would warn staff when pump discharge changed by more than 1.0 cfs. This allowed excellent notification when pump conditions changed AND when water temps were elevating. MWCD's ability to react to system errors was successful in 2024.

Project Name	Project Description	Current Status	Description of Progress
Cold Water Habitat	Permittee will construct a lateral cold-water habitat near the base of Dwinnell Reservoir at the confluence of MWCDs Cross Canal and the Shasta River to ensure cold water refugia.	**Completed and Maintained**	Structure is completed and functioning well. Aquatic vegetation covers much of the habitat during the summer and riparian trees planted in 2020 are 6-15' tall with high survival rates still exceeding 50%. MWCD is seeking technical input to maximize production in Cold Water Habitat from UC Davis watershed sciences. Numerous salmonids were observed in the Cold-water habitat in 2024 over a significant duration of the summer.
Cross Canal Enlargement	Enlarge the cross canal to allow for larger volumes of water to be released to the Upper Shasta for flushing flows	**Completed**	Work Completed. Reconstructed channel is functioning well and re-vegetation efforts were successful. The highest released flow has been 55 cfs to date.
Flow and Temperature gages	Maintain and Operate flow and temperature gauges to measure and verify prior rights, environmental water, Flying L pumps and seeps	**Maintained**	Coarse work is completed but refinement and maintenance continue. When MWCD uses Flying L water and releases from Dwinnell Reservoir to provide releases to Dwinnell, it must use the cumulative flow at Seldom Seen and apportion flows per intended use from the sum of total flow.

Project Name	Project Description	Current Status	Description of Progress
1707 Process	Continue to work with SWRCB to obtain approval of submitted Change Petition to add Fish and Wildlife and Municipal uses as additional beneficial uses of water and protect Provide update on petitions status water released for fish and wildlife purposes through Water Code 1707. Petition also proposes to add a point of re-diversion for irrigation purposes (9.4 cfs) near the City of Montague that will also aid water quality and quantity objectives.	**In progress**	Petition approval continues but progress is slow. MWCD is anxious to begin the process to design, and acquire permit approvals for re-diversion development as a water quality and conservation project.
Upper Parks Flow Strategy	Participate in and play leading role in implementing a reach-wide flow strategy.	**In progress**	Strategy is developed and assessment and design work has been accomplished. MWCD submitted and implementation grant for MWCD's Parks Creek diversion in 2021, 2022, 2023 and 2024. Full funding was awarded then rescinded due to an NGO challenge. MWCD feels its effort to fund the Parks Creek project was not supported by agency staff when needed. Required and committed to by-pass volumes are being provided. MWCD will continue to seek funding for this important fish passage, fish screening and increased by-pass project. This is a flow enhancement project where increased by-passes will be realized when the project is constructed. Parks Creek Ranch was purchased by TNC in 2024. TNC commits to allow MWCD to implement its SHA commitments on Parks Creek.

Project Name	Project Description	Current Status	Description of Progress
Shasta River Flow Strategy	Participate in and play a leading role in a reach wide flow strategy.	**In progress**	Strategy is developed and implementation projects that support the flow strategy are waiting for funding. Monitoring is improving. MWCD is assisted HIG Ranch with HIG diversion combine design project.
	Implement additional summer flow release of 2 cfs in Very dry year when prior rights are not released	**Maintained**	MWCD is aware of this requirement but it was not required last year because prior rights continued into September and the water year was a normal year.
Add new Point of Diversion	Assess and if feasible, construct, operate, and maintain new Point of Diversion (POD) in lower Shasta River to allow 9.4 cfs to remain instream to seasonally enhance flows in Upper Shasta River.	**No Progress**	This project has been on hold until SWRCB is closer to approving MWCD's petition that includes releases of flows from Dwinnell for re-diversion during the spring. MWCD would like to submit assessment and design proposals for re-diversion soon as it is a good measure to increase spring flows for flushing and out-migration. MWCD would likely add releases from Parks Creek for re-diversion as well. MWCD aims to seek design funding for rediversion in 2025.
Add new Point of Diversion	Assess and if feasible, construct, operate, and maintain new Point of Diversion (POD) in lower Shasta River to allow up to 10 cfs to remain instream to seasonally enhance flows in Upper Parks Creek.	**No Progress**	This project has been on hold until MWCD's point of diversion is retrofitted and a determination is made about the validity of WC 1701-1707 in this scenario. MWCD would like to increase the volume of water released from Parks Creek for re-diversion to 20 cfs instead of 10 cfs to provide increased flows in Parks Creek in the Spring. MWCD aims to seek design funding for rediversion in 2025.

Project Name	Project Description	Current Status	Description of Progress
Trash Rack and Emergency Spill	Investigate and if feasible, implement, operate, and maintain retrofit of trash racks and gate adjustment on spill gate of emergency tower to allow for larger releases of flow to Shasta River on wet and very wet years	**No Progress**	MWCD sought funds for initial design in 2024 to retrofit the spill tower to provide large flow events that flushing the channel and provide and sediment transport. Those funds have not been secured to date. However, some initial work may be allowed by the NCRWQCB who will use CalTrans funds to investigate alternative routes to deliver prior rights compared to the releasing flows to the Shasta River when water temp parameters are met.
Exchange Agreements	Work with agency and NGO partners and to gain approvals to implement water exchanges to provide 3.0 cfs of cold water with downstream Permittees during the summer	**In Progress**	Petition process ongoing. HVR infrastructure is completed. MWCD is working with Hole in the Ground Ranch to complete design and permit project so implementation can occur. Implementation funds have been secured by Cat Trout for Hole in the Ground implementation project. When implemented, HIG would have infrastructure to conduct the exchange.
Provide fish passage on Parks Creek	Continue to seek funding for Parks Creek screening and passage project. Implement, operate, and maintain fish passage and fish screening facility at the Parks Creek diversion. Provide by-pass flows to PCE as MWCD agreed upon in Upper Parks Creek Flow Plan when constructed.	**No Progress**	Grants were written and submitted, full funding was secured in 2024 but rescinded. MWCD feels it made sufficient effort to fund this critical project and this component of the SHA commitment should be waived. Agency support was needed to retain secured funding but it did not come forward.

Project Name	Project Description	Current Status	Description of Progress
Seldom Seen	Provide access and continue to work with partners to ensure completion of Seldom Seen legacy diversion structure to provide fish passage on Shasta River on MWCD property	**Completed**	This project is completed. However, NCRWQCB is interested in determining the feasibility of delivering prior rights via pipeline(s). If awarded, some attention will be given to piping from Seldom Seen prior rights.
Fish Passage	Continue to evaluate alternatives and constraints for future fish passage above Dwinnell Reservoir	**In Progress**	MWCD has submitted and was awarded a fish passage assessment grant from CDFW. MWCD contracted with biologist Mike Podlech and consulting firm Cbec to conduct assessment. Project will produce alternatives in 2025.
Habitat Improvements	Install LWD and spawning gravel on MWCD property below the Dam	**Completed**	This work was completed in 2020. MWCD will accept more tree planting and instream structures. The work conducted in 2020 is overgrown by vegetation (tullies and willow) and functioning well.
Exclude Livestock	Work with neighbors to exclude livestock on Shasta River ownership below Dwinnell Reservoir	**No Progress**	MWCD has new neighbors below Dwinnell who do not graze the riparian area. MWCD will work with new neighbors to address long term riparian fencing if grazing begins.
Planting	Plant and maintain riparian habitat enhancement associated with cold water habitat on the MWCD owned reach of Shasta River	**In progress**	This work was completed in 2021 but more planting could occur based on positive results.

Project Name	Project Description	Current Status	Description of Progress
Riparian source	Develop a Riparian cutting and seed source for over story riparian species on MWCD property below Dwinnell Reservoir. Maintain and enhance riparian habitat along Cross Canal, cold-water habitat and Shasta River within MWCD ownership	**In progress**	Riparian establishment is expanding along cross canal, Shasta River and Cold Water habitat. MWCD needs to source Shasta Valley Cottonwoods.
Spawning Gravels	Operate and maintain periodic flow releases (using "Block water") from Wet and Very Wet Water years year determinations to release increased spring flows to Upper Shasta River as coordinated with NMFS and CDFW with intention of enhancement spawning substrate. If results are not determined sufficient, MWCD will deliver up to100 cubic yards of spawning gravel substrate to at least 3 sites in the Upper Shasta River reach every 5 years.	**No Progress**	Some increased releases were conducted in 2024 with assumed success. MWCD will work with agency staff to provide more pulses as we move forward and monitoring continues to get established. More gravel will be injected in 2025.
Sediment Transport	Cooperate in hydrologic/geomorphic assessment of sediment transport and channel maintenance flow needs (“Assessments/Studies” below) and implement channel periodic maintenance flows as coordinated with Permittees, NMFS, and CDFW for Wet and Very Wet flow release schedules	**No Progress**	Diversion, stream release, by-pass flow monitoring and Cross Canal monitoring are continuing. Water quality monitoring was awarded funding and some overlap will occur that can inform initial links to flow regime, water quality and the needs/benefits of fine sediment transport beginning in 2025.

Project Name	Project Description	Current Status	Description of Progress
Diversion Monitoring	Continue monitoring of diversion volumes and release or by-pass volumes at Parks Creek and Below Dwinnell Reservoir (including Flying L)-6 gage sites.	**In progress**	MWCD continues to refine tracking of released water from varied sources for varied purposes.
Temperature Monitoring	Continue temperature monitoring of cross canal.	**In progress**	MWCD is collecting temperature and flow data from cross canal
Other studies		**In progress**	MWCD would be open to supplementation within 2 years of SWRCB approval of MWCD's petition. Working with NCRWQCB to develop an expanded water quality monitoring plan for the upper Shasta River.

2. Seldom Seen Ranch

The Seldom Seen Ranch is located north of Lake Shastina and west of Big Springs Road. The Property shares an eastern and northeastern boundary with the Shadow Hills subdivision. To the north lie the Hidden Valley Ranch and Hole in the Ground Ranch and to the west, the Shasta Springs Ranch.

The Property is used primarily for beef cattle production and is currently managed as an integrated unit with three other ranches owned and managed by the Permittee. The three contiguous properties, Hole in the Ground Ranch, Shasta Springs Ranch and Seldom Seen Property, are managed for pasture for beef cattle, while the Hay Ranch is mainly hay production for winter feed to support the three cattle ranches. Using hay from the Hay Ranch during the winter minimizes the amount of grazing necessary to maintain the cattle at the other sites, which allows the pasture grasses to be maintained at very high levels of ground cover. The high level of ground cover minimizes surface erosion and fine sediment contribution to the sensitive aquatic systems on the Enrolled Property, and inhibits the establishment of noxious weeds.

The Shasta River flows through the Property. The Seldom Seen Spring is a hydrologically unique feature of the landscape of the Enrolled Property. It is not accessible to fish. It is an unreliable spring that emerges in some years in the vicinity of 122.389W, 41.544N, under wet hydrologic conditions. The spring drains north to the Shasta River, flowing in a channel for approximately 500-feet, across a gentle slope before dropping into the river, 10± vertical feet in 75± feet linear distance, through heavy riparian vegetation. In years when it flows, it appears as a small seep in February through April, but relatively quickly can increase to more than two cfs, sometimes to as much as nine cfs. Usually in June, if not sooner, the flow just as quickly diminishes to zero. This water is not used for irrigation on the Property.

For the purposes of this report, activities on the Seldom Seen have the potential to influence the Upper Shasta River sub-reach identified in the Template Safe Harbor Agreement. See Table below for Seldom Seen reported progress on SHA commitments.

Project Name	Description	Current Status	Description of Progress
Prior Rights Management	Continue to irrigate with groundwater, utilizing the stored "Prior Rights" downstream, per current Upper Shasta River Flow Management Strategy	**Maintained**	See HIG monitoring data
HVR project	Agree to continue cooperation in project to upgrade HVR diversion system adjusting stocking to reflect loss of pasture productivity	**Completed**	Full project to improve HVR diversion system was completed in 2021, with the pipeline across EII completed in 2018 or 2019. Conveyance across EII Seldom Seen Ranch between the POD in Shasta River and HVR south property line is now in pipe, replacing former earthen ditch conveyance. In addition to conceding the potential loss of pasture productivity from ditch-loss sub irrigation, EII provided access for construction activities, staging of materials and equipment, and pre- and post-project monitoring and site review.

Project Name	Description	Current Status	Description of Progress
Soil Moisture Sensors	Agree to include Enrolled Property pastures in Project Area for testing effectiveness of soil moisture sensor technology, or other appropriate technology, to increase irrigation efficiency, implement routine use where appropriate, and adjust water management accordingly	**In progress**	Progress made during current reporting period was not reported.
Re-plumb wheel lines	Agree to re- plumb supply for wheel lines eliminating drain water entering channel as warmed surface water	**Completed**	EII re-plumbed supply lines and created a berm for the wheel-lines to eliminate drain water from entering the stream channel as warmed surface flow in 2022.
Fish Passage	Agree to eliminate Covered Species passage barrier at Diversion 156 (Seldom Seen)	**Completed**	Project to construct a roughened channel at site of POD 156 in Shasta River was implemented and completed in 2019 and 2020.
Beaver Management	Agree to develop and implement beaver management plan to alter or provide access around potential migration barriers at dams	**Completed**	EII completed and submitted a Beaver Management Plan with 2023 Annual Report. NOAA maintains this on file.
LWD and Spawning Gravel	Install 23 LWD structures	**In progress**	Project that added 5 LWD structures was completed in 2020.

Project Name	Description	Current Status	Description of Progress
Riparian Habitat Enhancement	Permittee agrees to work collaboratively with NMFS and CDFW to seek funding and implement riparian planting projects where existing riparian habitat is less than site- potential; at various locations in sub-reach from Riverside Road to property line	**In progress**	Completed beaver management plan in 2023. Project that planted 460+/- trees of riparian species; completed in 2020; more sites were identified in site plan and permittee reports they are ready to collaborate.
Wet Crossings	Two vehicle/livestock crossings/ watering access lanes will be maintained as rocked fords.	**No progress**	No maintenance activities needed in 2024
CMP Crossing	One vehicle crossing will be maintained in appropriately-sized CMP	**No progress**	No maintenance activities needed 2024
Spawning Gravel Enhancement	Agree to provide access to implement spawning gravel enhancement, up to 11 sites	**No progress in 2022**	Project that added two riffle habitats (67' total length), corresponding gravel beds (49' total length), and a stockpile of 60 yd3 of spawning gravels was completed in 2020. No progress since 2020.
Assessments	Assessment active beaver dams	**Completed**	Beaver Activity Check EII 2024 submitted to NMFS for review
	Spawning surveys conducted on Shasta River	**Completed**	2024-2025 Spawning Memo submitted with 2024 Annual Report

3. Hidden Valley Ranch

Hidden Valley Ranch (HVR) is owned and operated by Hidden Valley Ranch LLC. The HVR is located within the Covered Area along Big Springs Road in central Siskiyou County (41'34'57" N latitude, 122'26'18"W longitude). The HVR includes a total of 431± acres, with 150 ± acres under irrigation at the time of this agreement. The HVR is generally a cow/calf operation with a small segment of the operation producing sheep. Approximately 1.5 miles of the Shasta River is adjacent to the HVR, for the purposes of this report, activities on HVR have the potential to influence the Upper Shasta River sub-reach identified in the Template Safe Harbor Agreement. See Table below for HVR reported progress on SHA commitments.

Project Name	Project Description	Current Status	Description of Progress
Bunk house and West 40 Pipeline Maintenance	Maintain existing pipeline infrastructure as described in E.1. and continue irrigation practices to reduce tailwater temperature impacts	**Maintained**	Performed as required. Cleaning of grates and valve heads checked daily and performed as needed.
Cold Water Exchange with HVR, including spring connection	Efficiency projects on HVR to allow for exchange of MWCD water and keep cold spring water instream- exchange of water no net increase of instream flow= Provide a maximum of 3 cfs spring water for instream contribution from June 1 –September 15	**1707 Petition submitted -Completed**	Spring waters were released directly to river throughout irrigation season in excess of 3 cfs (Data provided in Appendix). SWB have not approved petitions, so exchange was not executed in 2024.

Project Name	Project Description	Current Status	Description of Progress
Fall Spring Contribution	Continue to release spring water into the river at the end of the irrigation season (November1-March 1)	**Maintained**	All springs provided flows in excess of that needed for irrigation purposes and thus released to the river throughout the reporting period (Data provided in Appendix).
Additional Spring Water Contributions	Additional spring water will be released to Shasta when spring source produces over 2.25 cfs-tracked via real-time meter	**Maintained**	Routine practice through 2024 and will continue (Data included in attachments)
Tailwater Re-use	Collect tailwater in open ditches and reuse on HVR	**Maintained**	On-going practice to re-utilize water wherever and whenever possible
Diversion Management	Participate in a reach-wide diversion management strategy	**Maintained**	Continue to participate in the Flow management strategy as is indicated in the TSHA
Tailwater Berms	Build berms along a 2 key pastures to reduce the chances of tailwater from re-entering the river and allowing for percolation and subsurface return	**Completed/ maintained**	Completed and used as intended.
Prior Rights Pipeline	Pipe Prior Rights ditch in exchange for 0.5 cfs spring water released to the river	**Completed/ Maintained**	Project completed and performed as required (Data included in Appendix)

Project Name	Project Description	Current Status	Description of Progress
Fish Passage	Maintain unimpeded fish passage conditions at the HVR diversion and agrees to yearly inspection	**Completed/ Maintained**	Project completed in Dec 2021. Observed no impediments during the reporting year. NOAA note- New fish screen changed channel - no annual inspection necessary, as not a passage issue.
Fish Screen	Relocate the fish screen to channel, construct a pipeline from new fish screen location to existing pipeline	**Completed/ Maintained**	Completed December 2021. Performed as designed in 2023.
Beaver BMP		**Maintained**	Four beaver dams continue to exist in various states, see addendum report for details
Leave woody debris	Leave wood debris from existing trees	**Maintained**	Complied. No action taken
Habitat Improvements	Implement large woody debris (up to 24 sites) projects on the ranch and build spring alcove	**Partially completed**	Complied, Spawning survey completed by CADFW for 2024 completed Jan 16, 2025, report in addendum
Riparian maintenance	Perform yearly maintenance on existing riparian fencing	**Maintained**	Performed on weekly basis with repairs done as needed
Crossings	Maintain crossings and stock water	**Maintained**	No work required
Fencing	Replace up to 50% of riparian fencing if needed due to flood damage as stipulated	**Maintained**	No action required

Project Name	Project Description	Current Status	Description of Progress
Habitat Improvements	Enhance existing alcoves where spring water will re-enter channel	**Completed**	Alcove enhancement was completed in 2021
Spawning Gravel Enhancement	Place gravels within the reach at 5 locations	**Partially completed**	Spawning beds completed in 2020, spawning survey this found beds silting in behind beaver dams
Riparian Planting	Plant riparian trees	**Maintained**	No projects identified in this reporting period. Previous planting in riparian zone 1 is showing strong success.
Riparian Grazing Plan	Implement the riparian grazing plan as described in Section E.3.d and outlined in Appendix X.	**Maintained**	See attached grazing report in addendum
Pasture management Soil Moisture Sensing	Will cross fence to better manage stubble height	**Maintained**	Implemented rotational grazing throughout ranch utilizing electric fencing to encourage specific grazing areas. Not implemented. Monitored pasture health, grass height, with rotational grazing and minimal tail water. West 40 got no water after August, portions of the bunkhouse received no water as well due to dry conditions at end of water irrigation year

Project Name	Project Description	Current Status	Description of Progress
Assessment/ Studies	Allow access for studies	**Maintained**	CADFW continues to have equipment placed in the river for pit tag research however it is in serious need of repairs
Effectiveness Monitoring Program and Reporting Dashboard	Maintain existing network, install three needed real-time stage/flow/ temperature stations, further develop dashboard to house all EM stations and POD stations, as well as annual reporting and do data analysis for performance measures- **HVR US and HVR DS**	**In progress**	HVR US was installed as part of the efficiency pipeline project and is reported on Eyasco for agency review- along with POD monitoring stations- included in attachment of this report.
1707 Completions	Work with SWB to finish existing 1707 petitions to get real water instream and develop others for Parks	**In progress**	Petitions submitted to SWB- order progressing.

4. Hole in the Ground Ranch

The Hole in the Ground Ranch is located north of Lake Shastina, and west of Big Springs Road. The Property shares a western and southwestern boundary with the Shasta Springs and Seldom Seen ranches, also owners by the Permittee. The south fence line is also common with the Hidden Valley Ranch (HVR). To the north lie the Cardoza Ranch and the Big Springs Ranch Wildlife Area. On the northeast and east are other small private landowners.

The Property is used primarily for beef cattle production and is currently managed as an integrated unit with other ranches owned by the Permittee. Three contiguous properties, including the Hole in the Ground are managed for pasture for beef cattle, while the Hay Ranch is managed for hay for winter feed to support the three cattle ranches. Using hay from the Hay Ranch during the winter minimizes the amount of grazing necessary to maintain the cattle at the other sites, which allows the pasture grasses to be maintained at very high levels of ground cover. The high level of ground cover minimizes surface erosion and fine sediment contribution to the sensitive aquatic systems on the other three ranches, and inhibits the establishment of noxious weeds. Maintaining the cattle locally, year-round, helps control the introduction of non-endemic species, e.g. invasive plants. Streams flowing through the Enrolled Property include the

Shasta River, Parks Creek, and Hole in the Ground Creek. The confluences of the creeks with the Shasta River are off the property.

For the purposes of this report, activities on the Property have the potential to influence the Upper Shasta River and Lower Parks Creek sub-reaches as identified in the Template Agreement. See Table below for Hole in the Ground Ranch reported progress on SHA commitments.

Project Name	Project Description	Current Status	Description of Progress
Cattle Access	Cattle access to the channel will be excluded or restricted to crossings, watering access points, and/or limited season/stocking/duration that conserves water quality	**Completed**	No Changes in 2024
Tailwater berms	Agree to continue maintenance of tailwater berms	**Completed**	No maintenance required in 2024
Maintain concrete ditches	Agree to maintain concrete ditch lining on Pump Diversion distribution system	**Completed**	No maintenance required in 2024
Diversion Combine/ Cold Water Exchange	Agree to redesigning and rebuilding Gravity Diversion and pump diversion in order to facilitate Upper Shasta River Diversion Management Plan	**In progress**	Project design completed in 2023- anticipated implementation in 2025.

Project Name	Project Description	Current Status	Description of Progress
Soil Moisture testing	Agree to include Enrolled Property pastures in testing effectiveness of soil moisture sensor technology to increase diversion efficiency, implement routine use where appropriate, and adjust water management accordingly	**In progress**	Continued participation in pilot project with U.C. Extension.
Tailwater Reduction	Hole in the Ground Creek tailwater reduction	**Completed**	2022 SHA Annual Report has details of project.
Fish Passage	Agree to maintain fish passage through the roughened channel at the POD for the two HIG diversions on the Shasta River	**Maintained**	No instream work needed during reporting period
Cardoza Diversion	Allow for new crossing at Cardoza diversion	**Completed**	Project Completed in 2021. Project assessments are still on-going for CalTrout's Mid-Shasta River Habitat Improvement Project (which includes Lower Parks Creek).
Beaver Management Plan	Agree to develop and implement beaver management plan to alter or provide access around potential migration barriers at dams	**Completed/ Maintained**	Beaver Management Plan was submitted in 2023. Adherence to plan can be found in attachment Beaver Activity Check EII 2024.
Riparian fencing	Fencing along HIG creek	**In progress**	Implementation is underway.

Project Name	Project Description	Current Status	Description of Progress
Riparian Exclusion Maintenance	Agree to maintain riparian exclusion fencing or, if modified, riparian pasture fencing with associated grazing plan. Will replace at least 20% of riparian fencing if needed due to high flow damage	**Maintained**	No fencing replacement needed.
Riparian fencing	Fence 40% of remaining Parks Creek	**In progress**	Implementation is in progress, through the USFWS Partners Program Grant.
Riparian Grazing Planning	UCCE riparian grazing planning for Parks Creek and Rattlesnake fields, around Cardoza	**Maintained**	Project planning has been initiated and grant applications are in preparation
Riparian Grazing Planning	UCCE riparian grazing planning for HIG creek	**Maintained**	Situation not applicable in 2024.
Cattle Management for Parks Overflow	HIG will add, as appropriate, measures for cattle management to safeguard water quality including fencing the Parks Creek overflow channel. Such measures include temporary or permanent fencing depending on the need indicated by water quality in the area.	**In progress**	Initial monitoring event was completed in 2022. The old channel was walked and inspected for evidence of recent flowing water conditions (e.g., sediment transport and deposition, vegetation changes). There were no observations of flow conditions that would transport nutrients to the historic channel and hence to the fish bearing waters in the lowest subreach at the confluence with the Shasta River. The monitoring is limited to the extent on EII property, the boundary of which is more than one-half mile linear distance (not channel distance) upstream from the Shasta River, separated by lands controlled by two other property owners. Additional monitoring under a variety of hydrologic conditions is planned.

Project Name	Project Description	Current Status	Description of Progress
Livestock crossings	Seven livestock/vehicle crossings will be maintained as rocked fords	**No Progress**	No maintenance required. Main crossings will be upgraded with the implementation of HIG Conservation Project.
Studies and supplementation	Agree to participate in studies to refine Upper Shasta River Flow Management Strategy, including role of Seldom Seen Spring	**In progress**	Continued to be willing to provide access if necessary. Completed spawning surveys conducted on reaches of Parks Creek and the Shasta River for the 2024-2025 spawning season (Included as attachment).

5. Shasta Big Spring Wildlife Area

The California Department of Fish and Wildlife (CDFW) purchased the Big Springs Ranch Wildlife Area (BSRWA) from The Nature Conservancy (TNC) in 2019. CDFW will operate the property as a State Wildlife Area for the purposes of protecting and enhancing natural habitats for fish and wildlife, and providing public use opportunities that are compatible with the long-term conservation needs of fish and wildlife populations and their habitats. Permittee may consider the use of cattle as a management tool for wildlife habitat benefits based on an adaptive management approach.

BSRWA includes two ranches covering a total of 6,000± acres. Approximately five miles of the Shasta River and 1.5 miles of Big Springs Creek are included within the BSRWA property boundaries. The ranch lies within what has been designated as the **Mid Shasta Reach and the Big Spring Creek Reach** in the Template Agreement. See Table below for BSRWA reported progress on SHA commitments.

Project Name	Project Description	Current Status	Description of Progress
1707 Dedications	Maintain diversions and 1707 dedications	**Maintained**	Dedications were managed in cooperation with our neighbor to the east, the water master and the state water board.
Tailwater Management	Continue to manage tailwater returns	**Maintained**	
Diversion Management Plan	Continue acceptable diversion management plan	**Maintained**	Two of the three culverts have been removed on Little Springs creek. The third is continually maintained to keep it clear and fish passage alternatives are being explored.
Real-time Monitoring Stations	Operate real time monitoring at stations to track improvements on the Enrolled Property	**In progress**	Flow and temp monitoring stations were installed on 243 and 247/248. The meter on 241 needed to be repaired. There's a contract in the works to accomplish this. Flow and temp stations are in the process of being installed on Big Springs and Little springs creeks by DWR.
Big Springs Lake outfall culvert	Clear Big Springs Lake outfall culvert and add a monitoring device to outfall	**In progress**	The meter on 241 needs to be repaired. There's a contract in the works to accomplish this. Flow and temp stations were installed on Big Springs and Little springs creeks by DWR.
Cardoza Easement	Provide easement for the proposed Cardoza pump station	**Completed**	Project completed in early 2021- see Cardoza reporting
Stockwater	Continue to maintain off-channel stock water troughs	**Maintained**	Damaged plumbing was repaired.

Project Name	Project Description	Current Status	Description of Progress
Nelson Fish Screen	Nelson Fish Screen Evaluation and replacement	**Maintained**	Flow meter was installed with data sent to GrabData.
Little Springs Culverts	Until culverts are removed Permittee agrees to clean clogged culverts along Little Springs Creek	**Maintained**	Two of the three culverts have been removed on Little Springs creek. The third is continually maintained to keep it clear and fish passage alternatives are being explored.
Little Springs Passage	Remove the two culverts and provided unimpeded fish passage at the third upstream of the County road on Little Springs Creek for fish passage and water quality	**In progress**	Two of the three culverts have been removed. The Fisheries Technical team will explore fish passage solutions for the remaining culvert.
Beaver Management	Implement beaver management	**Maintained**	Debris was removed daily from the remaining Little Springs culvert. Beaver dam was left in place just below site where the second culvert was removed from.
Woody debris	Continue to leave woody debris from existing trees	**Maintained**	
LWD	Implement large wood enhancement on the BSC and Shasta River as specified on Habitat Improvement Map	**In progress**	Fisheries Technical team and CalTrout are investigating the best approach for the pilot project.
Alcoves and off channel	Enhance up to four spring alcoves along the Shasta River and build off-channel habitat along the Shasta River as specified on Habitat Improvement map	**In progress**	Fisheries Technical team and CalTrout are investigating the best approach.

Project Name	Project Description	Current Status	Description of Progress
Riparian fencing	Will continue to perform yearly maintenance as needed on existing riparian fencing	**Maintained**	Fencing maintained
Riparian	Implement riparian restoration projects on Little Spring Creek and Big Springs Creek	**In Progress**	Fisheries Technical team and CalTrout are investigating the best approach.
Riparian Grazing	If riparian grazing occurs, Permittee will implement the riparian grazing plan	**In progress**	No riparian grazing occurred.
Spawning Gravel Enhancement	Implement spawning gravel enhancement if deemed appropriate on the Shasta River portion of BSRWA as specified on Habitat Improvement Map	**In progress**	Fisheries Technical team and CalTrout are investigating the best approach.
Pasture Management	Permittee will require lessee to rotate cattle through the pastures as part of Permittee's pasture management	**In progress**	Cattle were rotated during reporting year.
Public outreach	Spawning tours, etc.	**In progress**	
Assessments/ Studies/Supplementation	Allow the Parties to use data from existing studies on the ranch to further understand Covered Species habitat use on the Enrolled Property	**In progress**	Fisheries Technical team will develop an approach. The Karuk tribe has started an RSI project on BSC during reporting period.

Project Name	Project Description	Current Status	Description of Progress
Studies	Allow access for studies	**In progress**	The meter on 241 needs to be repaired. There's a contract in the works to accomplish this. Flow and temp stations were installed on Big Springs and Little springs creeks by DWR.
Effectiveness Monitoring Program and Reporting Dashboard	Maintain existing network, install needed real-time stage/flow/temperature stations, further develop dashboard to house all EM stations and POD stations, as well as annual reporting and do data analysis for performance measures	**Maintained**	Flow and temp monitoring devices were installed during the reporting period and posted on Eyasco Grabdata. Data is included in attachments.

6. Cardoza Ranch

The Cardoza Ranch is located along Louie Road in central Siskiyou County (41°35'00'' N latitude, 122°26'49"W longitude). The ranch operation influences both the Lower Parks and Mid Shasta reaches as designated within the Agreement, however the river corridor is not directly adjacent to the property. The Parks Creek overflow, a small tributary to the Shasta River, runs through the Ranch. The Cardoza Ranch includes a total of 497± acres, with 165 ± acres under irrigation. See Table below for Cardoza's reported progress on SHA commitments.

Project Name	Project Description	Current Status	Description of Progress
Efficiency Pipeline	Construct pipeline infrastructure to increase efficiency and reduce tailwater production	**Completed**	Spring 2021

Project Name	Project Description	Current Status	Description of Progress
Cardoza new POD, Fish Screen and Pipeline Project	Construct, properly manage and maintain a new point of diversion on the Shasta River at the Louie Road bridge and abandon existing flashboard diversion structure on Parks Creek	**Completed**	2024 diversion data attached
Interim flow management on Parks	Interim flow management efforts to improve water quality, timing and duration until the diversion is moved to the Shasta and Implement an interim strategy to improve passage until new point of diversion is constructed	**Completed**	Diversion was moved- interim management not necessary
Tailwater collection and re-use	Collect tailwater in open ditches and reuse as described in Section E.3.a.	**Completed**	
Pasture Grazing Management	Add cross fencing to manage pasture grazing to keep grass between 4 to 6 inches.	**In progress**	
Stock water	Permittee agrees to installation of a stock water system in conjunction with the proposed efficiency piping project.	**Completed**	Spring 2021- maintained in 2024

Project Name	Project Description	Current Status	Description of Progress
Soil Moisture Sensing program	Install several soil moisture sensor stations to help inform irrigators when to start irrigation rotations, could help reduce water use by informing LO's of reduced ET during Spring and Fall and between rotations to keep water instream- quantified benefit is unknown	**Completed**	Installed Spring 2021 – soil moisture sensor data attached.
Effectiveness Monitoring	Monitoring report from POD move	**In progress**	UCD monitoring project benefits until ended in 2023- submitted to NOAA for file.
	Access to maintain existing pit tag array and trap and tag fish	**In progress**	UCD pit tag at old POD was monitored until November 2023, results included in post project report.
1707 Completions	Work with SWB to finish existing 1707 petitions to get real water instream and develop others for Parks	**In progress**	SWB drafted supplemental decree orders- and has been approved by superior court process and is now part of decree and the Water Master is to implement the dedication.

7. Grenada Irrigation District

Grenada Irrigation District (GID), a Special District of Siskiyou County, is located in Siskiyou County (41°38’11.56’’ N latitude, 122°29’22.88”W longitude). GID owns four parcels including a small reach of the Shasta River, as well as provides irrigation water to the GID comprising approximately 1477 irrigated acres. Only two parcels located on or near the Shasta River that include intake and pumping infrastructure are included within the Agreement. Approximately 300-feet of the Shasta River is within GID ownership, designated to be in the Mid Shasta Reach in the Agreement. See Table below for GID’s reported progress on SHA commitments.

Project Name	Project Description	Current Status	Description of Progress
Upgraded POD	Maintain upgraded diversion facility	**Maintained**	Regular maintenance was performed at the upgraded diversion site.
GID Efficiency Improvement	Implement conveyance pipeline to reduce transmission loss. Conserved water will be provided for instream benefit when the project is implemented. Estimated 1,136 acre-feet will be conserved on an average year	**In progress**	GID has a completed set of plans and CEQA document for the pipeline project. We are seeking appropriate funding sources that would consider such a project. We feel as soon as we make progress towards the 1707 application we will have a higher likelihood of securing funding.
1707 Petition	Conserved water will be provided for instream benefit through SWRCB Change Petition and Water Code 1707	**In progress**	GID has been actively engaged in the TNC project to file 1707 related to SHA. We have communicated regularly with the SWB and supplied responses to protestants to the GID 1707 application. TNC grant to help facilitate this process has expired in 2023. The GID application seemed to be put on hold at the SWB level. GID may have to find other sources to help push this over the finish line

Project Name	Project Description	Current Status	Description of Progress
Stream Gaging	Work with agencies and SWCG to use streamflow gage at GID riffle to reduce flow variability resulting from GID diversion and curtailment	**In Progress**	GID diverted much of the irrigation season in 2024 even with curtailment as the water year was more normal and we collaborated with diverters within and outside of the Mid Shasta Reach. We worked with the SSWMD and utilized the SPU gauge as well as gauges at A12, Montague and Yreka to monitor flows to reduce variability.
Diversion management	Participate in a reach-wide diversion management strategy	**In progress**	Worked with the SSWMD and other water users on the Shasta to coordinate a diversion strategy that met the curtailment requirements and minimized impact on the reach. We have been working regularly with Mid Shasta diverters for many years collaboratively. In 2024 we also engaged in a regular (daily and weekly) communication and coordination effort to manage efforts with other lower priority diverters.
Passage/Screening	Maintain unimpeded fish passage conditions at the GID diversion. Maintain self-cleaning fish screen at the GID diversion point.	**Maintained**	Monitored and maintained the GID self-cleaning screen through the year. The Fish screen worked well the entire year.
Habitat Complexity	Will maintain the instream barb structures opposite of the Fish Screen	**Maintained**	Monitored Barbs to insure they were working as designed and that they were not impacted by higher flow volumes in the river.

Project Name	Project Description	Current Status	Description of Progress
Habitat Complexity	Provide access for implementation of large wood enhancement on GID riparian property if deemed applicable	**In Progress**	GID is working with Cal Trout to be included in the habitat improvement project. In multiple communications throughout 2024 we have been told we are within the grants scope. We continue to work with Cal Trout in 2024 to help expedite the project planning and implementation. CalTrout is scheduling a meeting in early 2025 to continue to map out improvements.
Riparian Fencing	Perform yearly maintenance on existing riparian fencing	**Completed**	Riparian fencing has been monitored and repaired as needed.
Effectiveness Monitoring Program and Reporting Dashboard	Maintain existing network, install three needed real-time stage/flow/ temperature stations, further develop dashboard to house all EM stations and POD stations, as well as annual reporting and do data analysis for performance measures	**Maintained**	SPU is working properly. GID supports the implementation of a pit tag array within the Shasta. It would be very beneficial to determine fish movement throughout the year.

8. Belcampo-North Annex

This property is no longer supported by the program as of 2023.

9. Grenada Novy Ranches

The Grenada Novy Ranches is owned by Lowell L. Novy in sole proprietorship, DBA Novy Ranches. The Grenada Ranch is located along Highway A-12, approximately three miles east of Interstate 5, in Siskiyou County (41°38'11.56'' N latitude, 122°29'22.88"W longitude). The Grenada Ranch includes a total of ±1085 acres, with ±586 acres under irrigation based on GIS coverage. Novy Ranches has, and for the term of the Permit, will continue to lease pasture commonly referred to the Zenkus Property. The Zenkus Property is 73 irrigated acres and is contiguous to and surrounded by either the Novy or Rice property. The Grenada Novy Ranches reporting is inclusive of the Zenkus Property hereinafter. Inclusive of the Zenkus Property, the Grenada Novy Ranches is managing 659 acres under the Agreement.

Grenada Novy Ranches is located within the lower part of the Mid-Shasta Reach and is adjacent to the Rice Livestock Company, Inc. Ranch. The Enrolled Property is adjacent to approximately 12,400 feet of the Shasta River. See Table below for Novy's reported progress on SHA commitments.

Project Name	Project Description	Current Status	Description of Progress
Tailwater Reduction	Continue irrigation practices to ensure there are no tailwater impacts	**Maintained**	Evaluate berms regularly as part of pasture management.
Novy Pump Maintenance	Installed Novy Pump in 2007 to replace usage of the Huseman Ditch, thus leaving at least 5.5 cfs in stream for additional 3.5 miles. Continue to maintain pump to standards	**Maintained**	Novy Main Pump pulled and overhauled. This pump was inoperable (Sept. 9, 2025 - Oct. 1, 2025) during a portion of the irrigation season. Please see diversion data included in Appendix.

Project Name	Project Description	Current Status	Description of Progress
Tailwater Berms	Installed six tailwater berms throughout Novy Ranches from 2009 to 2013 to reduce tailwater inputs and water quality impacts. Continue to monitor and repair tailwater berms as needed	**Maintained**	Evaluate berms regularly throughout the year.
Novy Pump	Implement efficiency project on Novy pump	**In progress**	Upon finalization and determination of water rights NOV, work will continue. At this time, the determination is stalling this project.
Novy Rice Zenkus-Novy Commitment	Implementation of efficiency project on the Novy, Rice, Zenkus Riparian Diversion conserving up to 5 cfs conveyance and Novy Riparian Pump Efficiency Project.	**In progress**	RCD continues to negotiate with WCB funding for this project.
Soil Moisture Sensing program	Work with UC Extension to further understand soil moisture and further optimize irrigation efficiency	**No progress**	

Project Name	Project Description	Current Status	Description of Progress
Reach wide flow strategy	Participate in a reach-wide diversion management strategy	**In progress**	Coordinating diversions with Water Master to optimize instream flow and to meet minimum flows within the canyon.
Fish Passage	Maintain unimpeded fish passage conditions at the Novy Pump diversion	**Maintained**	Maintained fish cone screen daily, confirming it worked each day the pump was in use.
NRZ Interim Measures	Manage and adjust flashboards and by- pass volume at Novy, Rice, Zenkus diversion structure based on fish passage objectives	**Maintained**	Maintaining the 6 feet opening within the flashboard dam throughout irrigation.
NRZ Passage/Screening	Seeking funding for the redesign and implementation of NRZ to meet criteria.	**In progress**	
Instream Habitat Complexity	Seek funding and implementation of habitat enhancement projects	**In progress**	Working with Cal Trout to have Shovel-Ready Large Woody Debris Project to occur at site north of NRZ Diversion

Project Name	Project Description	Current Status	Description of Progress
Riparian Grazing	Continue to minimize the potential impacts of grazing in riparian areas by limiting the season of use and by maintaining an approximate 6” stubble heights for herbaceous vegetation	**Maintained**	
Riparian fencing	Continue to perform yearly maintenance on existing riparian fencing	**Maintained**	
Riparian Planting	Maintain the few remaining trees/shrubs from four test plots along the Shasta River that were planted in 2015.	**Maintained**	Planting may be part of the CalTrout funding.
Substrate Quality	Participate in riparian planting to stabilize banks.	**No progress**	

Project Name	Project Description	Current Status	Description of Progress
Pasture Management	Continue to utilize pasture rotation to avoid overgrazing	**No Progress**	
Assessments	Continued participation in temperature monitoring at ingress, middle and egress and DO monitoring at the ingress of the Grenada Novy Ranches Shasta Reach via RCD	**Maintained**	Data has been submitted as part of the report.
Assessments	Participate in developing design, seeking funding and installation of Alternative stock watering systems on fields irrigated by NRZ riparian		Requested RCD to seek funding.
Assessments	Allow access for studies that support objectives of the Agreement and as approved under the Agreement.	**No Progress**	Diversion data is collected by Provost & Pritchard Engineering and submitted as part of this report. Survival rates for riparian planting has not been collected. No pit tag array installed. No juvenile surveys completed.

10. Rice Livestock Company, Inc.

Rice Livestock Company, Inc. (Rice) is located along Highway A-12, approximately three miles east of Interstate 5, in Siskiyou County (41°38'11.56'' N latitude, 122°29'22.88"W longitude). Rice includes a total of 2,100 acres, with approximately 379 acres under irrigation. Approximately 1.8 river miles of the Shasta River is within ownership of Rice, within what has been designated the **Mid-Shasta Reach** in the Agreement. See Table below for Rice's reported progress on SHA commitments.

Project Name	Project Description	Current Status	Description of Progress
Maintain Huseman POD and Screen	Maintain the Huseman Ditch diversion and fish screen. Continue diversion reduction realized through the Huseman Ditch efficiency project of 2011. Maintain pipeline infrastructure provided with the Huseman Ditch efficiency project of 2011. Continue remote control of Huseman Pump which allows users to turn off pump remotely reducing tail water.	**In progress**	Huseman Ditch diversion and fish screen were maintained throughout 2024. Pipeline infrastructure is in good working order. Remote control of Huseman pump no longer working but hope to get new system in with Huseman pipeline project. Acquired funding for design. Continuing to seek funding for implementation of Huseman Ditch project.
Tailwater Management	Huseman Fields 1 and 2: Improve berm and develop catch ditch to deliver and re-distribute excess tail-water water to under irrigated property.	**Maintained**	Berms remained in good shape throughout 2024.

Project Name	Project Description	Current Status	Description of Progress
Tailwater Management	Huseman Field 3: Improve catch and redistribution ditches. Use remote pump operation for Huseman Ditch so pump can be remotely turned off to reduce run-off.	**No progress**	Catch and redistribution ditches need to be improved based on pipeline design for all fields.
Tailwater management	Field and Field 4: Use remote activated pump operation so pump can be remotely turned off when soil moisture probe notifies Permittee.	**No progress**	Needs to be incorporated into pipeline project.
Tailwater Management	Novy-Zenkus- Rice Riparian -Gravel Pit Field. Improve berm at Shasta River.	**Maintained**	We plan to incorporate berm improvement project with NRZ pipeline project. Continued maintenance and plan to improve.
NRZ Efficiency Pipeline	Implementation of efficiency project including piping to increase delivery efficiency on the Novy-Rice-Zenkus conveyance and provide irrigation efficiency through flood valves and piping of irrigation laterals	**In progress**	Project was awarded funding but SVRCD has yet to receive a contract from funding source.

Project Name	Project Description	Current Status	Description of Progress
Huseman-Rice/Nicoletti Commitment	Change NRCS design, Permit and Plan (CEQA) Pipeline and Implement efficiency project to reduce diversion from 11.9 cfs to 9 cfs	**In progress**	Huseman continues to seek implementation funding and has secured design funding. Huseman Ditch is water mastered and has installed flow meters at the diversion.
Soil Moisture Sensors	Install soil moisture sensors throughout the Enrolled Property to improve water efficiency as a component of Huseman piping project	**No progress**	Part of Huseman Ditch implementation project.
Reach wide flow strategy	Participate in a reach-wide flow strategy as outlined in the Mid-Shasta Flow Strategy	**In progress**	Provided bypass flows as identified in Mid-Shasta flow strategy for both NRZ and Huseman ditches.
Fish passage and screening	Maintain unimpeded fish passage conditions at the Huseman Diversion and Maintain Huseman Ditch Fish Screen	**Maintained**	Fish screen maintained and monitored regularly to ensure it is working.

Project Name	Project Description	Current Status	Description of Progress
NRZ fish passage	Maintain flashboards at Novy- Zenkus-Rice diversion in consideration of fish passage until fish passage and screening project is implemented. Participate in assessment leading to design and implementation of a fish screening and passage facility meeting NMFS and CDFW criteria.	**Maintained**	Checked regularly for proper fish passage and board placement.
NRZ fish passage	Participate in current design and permitting process to improve fish passage and protection at Novy Zenkus Rice Riparian Diversion. Upon completion of approved design, seek funding and aid in construction of a new diversion structure at the Novy-Zenkus- Rice Diversion that is passable for all life stages	**In progress**	NRZ is still waiting for a implementation contract between SVRCD and WCB.
Beavers	Implement beaver Best Management Practices	**Maintained**	We check for signs of beaver activity regularly but there are no beaver problems on our stretch of the river.

Project Name	Project Description	Current Status	Description of Progress
Instream Habitat Complexity	Participate in seeking funding and implementation of habitat enhancement projects (LWD for bank stabilization) as shown on the attached Habitat Improvement Map	**In progress**	Continued to look for funding throughout 2024 & continued to meet with Cal Trout and Jay Stallman with Stillwater Sciences for possible funding opportunities to reconnect oxbows along river and bank stabilization projects. Alterations to existing cattle crossing may be considered.
Riparian fencing	Maintain existing cattle exclusion fencing to protect riparian areas. Continue to perform yearly maintenance on existing riparian fencing, crossing and existing alternative stock watering systems	**Maintained**	Maintain fences throughout the year and monitor alternative stock water troughs to be sure they are producing adequate water.
Pasture Management	Continue to utilize pasture rotation to avoid overgrazing	**Maintained**	Cattle are rotated on a continuous basis to avoid overgrazing.
Pasture Management	Maintain soil moisture probe in Field #4.	**No progress**	Part of Huseman Ditch implementation project.
Pasture Management	Maintain Alternative Stock Watering systems	**Maintained**	Stock water systems are maintained and functioning.

Project Name	Project Description	Current Status	Description of Progress
Pasture Management	Participate in developing design, seeking funding and installation of Alternative stock watering systems on fields irrigated by NRZ riparian diversion.	**In progress**	NRZ is still waiting for a implementation contract between SVRCD and WCB.
Effectiveness Monitoring	Diversion monitoring station will be maintained and operated as designed. Provide yearly data	**Maintained**	NRZ diversion monitoring systems are maintained and monitored for proper collection of data. Huseman Ditch is water mastered and has flow meters installed.

11. NB Ranches, Inc.

NB Ranches, Inc. (Nicoletti) is located along DeSoza Lane, approximately three miles east of Interstate 5 near Grenada, in Siskiyou County (41°38'11.56'' N latitude, 122°29'22.88"W longitude). The NB Ranches is located on the Shasta River, within the Mid-Shasta Reach and includes a total of 357.2 acres, with approximately 257.4 acres under irrigation based on GIS coverage. Approximately 1.2 river miles of the Shasta River is within the ownership of NB Ranches. See Table below for Nicoletti's reported progress on SHA commitments.

Project Name	Project Description	Current Status	Description of Progress
Maintain 2nd POD	Maintain the existing Huseman second point of diversion that conserves an estimate 240 af compared to previous point of diversion	**Maintained**	The POD was maintained in 2024

Project Name	Project Description	Current Status	Description of Progress
Hayfield lateral	Install lateral to reduce tailwater impacts	**In progress**	Working with Gary Black on finding funding for this project. - copy of final proposal from RCD was submitted.
Diversion reduction	Design and Implement Huseman Ditch project to reduce diversion volume.	**In progress**	Huseman continues to seek implementation funding and has secured design funding. Huseman Ditch is water mastered and has installed flow meters at the diversion.
SWRA tailwater re-use	Manage fields to reduce tailwater returns from outside sources to reduce diversion	**Maintained**	SWRA tailwater is collected in long sump and reused on pastures.
Fish Passage	Maintain unimpeded fish passage conditions at the Huseman Diversion	**Maintained**	No passage issues.
Habitat Improvement	Implement LWD and oxbow reconnection and riparian planting	**In progress**	Related to Oxbow Project - as/if needed for fish cover. CalTrout is evaluating project to fund with their existing grant.
Riparian fencing	Continue to perform yearly maintenance on existing riparian fencing	**Maintained**	Fence is regularly checked and maintained as needed.

Project Name	Project Description	Current Status	Description of Progress
Watering lanes	Maintain existing watering lanes for stock water	**Maintained**	Three active watering lanes that are rocked
Grazing Management Plan	Participate in the development of and implementation of a UC Extension guided riparian grazing plan	**Completed**	Grazing Plan prepared and submitted in 2024.
Rotation grazing	Continue to utilize pasture rotation to avoid over grazing	**Maintained**	Riparian area was not grazed in 2024
Huseman-Rice/Nicoletti Commitment	Participate in design and implement Nicoletti component of Huseman Ditch piping to reduce diversion volume	**In progress**	Flowmeter installed has been fixed and malfunctioned again in 2024.
Soil Moisture Sensing program	Install several soil moisture sensor stations to help inform irrigators when to start irrigation rotations, could help reduce water use by informing LO's of reduced ET during Spring and Fall and between rotations to keep water instream-quantified benefit is unknown	**In progress**	Priced watermark sensors for purchase intended to install after Huesman pipeline project completion.

Project Name	Project Description	Current Status	Description of Progress
Effectiveness Monitoring	Diversion monitoring station will be maintained and operated as designed. Provide yearly data	**Maintained**	Diversion monitoring station on Huseman was not working in 2024.

12. Edson Foulke Ditch Company

Edson Foulke Yreka Ditch Company (Edson-Foulke), an association consisting of six individual members that divert water through a single delivery system commonly known as the Edson-Foulke or China Ditch. The water diverted through Edson-Foulke ditch is a combination of multiple shared water rights. Edson Foulke, owns no real property and operates it's diversion through an easement on Parks Creek Ranch.

The furthest point of use is 15.45 ditch miles north of Parks Creek diversion point. The location of Edson Foulke diversion is within the **Upper Parks Creek Reach** of the Agreement. See Table below for Edson-Foulke's reported progress on SHA commitments.

Project Name	Project Description	Current Status	Description of Progress
Maintain POD	Maintain diversion facility and diversion operation	**Maintained**	Routine maintenance/cleaning occurred for headgate, fish screen and canal
Water Conservation	Assess, design, permit and implement a water conservation project on Edson-Foulke Ditch that conserves 3.0 cfs when the ditch is operating at 60% capacity or greater. By-pass the 3.0 cfs of conserved water prior to diverting for irrigation or stock watering purposes.	**In progress**	Conservation project has been designed and engineered. Now seeking grant funding to implement project. Several grants have been applied for but none have been approved.

Project Name	Project Description	Current Status	Description of Progress
Edson-Foulke and Parks Creek Ranch diversion #1 & 2 Delivery Efficiency Project	To implement Upper Parks Creek Flow Plan, design and construct a diversion facility which includes: programmable, automated head gate and flow gage for the diverted volume. Facility will also include streamflow gage facility located above or below diversion, based on feasibility and design	**In progress**	Continue working on diversion and delivery infrastructure designs.
Fish Passage	Maintain unimpeded fish passage at EF Parks Creek diversion except when surface flows cease	**In progress**	Maintained a clear channel in stream at the point of diversion for fish passage
Fish Screen Maintenance	Maintain Edson - Foulke Fish Screen and by-pass	**Maintained**	Routine maintenance occurred on the fish screen while diversion was operating and flows were maintained through the bypass
Fish Screen	Improve/replace existing fish screen based on screening criteria evaluation results, incorporate fish screen into new facility	**No Progress**	Evaluation of fish screen will be performed with the design of automated diversion facility

13. Parks Creek Ranch

Parks Creek Ranch (PCR) is owned by The Nature Conservancy, effective October 2024. PCR is located within the Covered Area along Old Highway 99 and Stewart Springs Road in central Siskiyou County (41°26'54.26" N latitude, 122°27'46.39"W longitude). PCR includes a total of 3,970± acres, with 1,480 ± acres under irrigation from Parks Creek and Spring Creek. Approximately 6.5 miles of Parks Creek flows through PCR within the reach designated as the Upper Parks Creek Reach of the Covered Area. See Table below for PCR's reported progress on SHA commitments.

Project Name	Project Description	Current Status	Description of Progress
Edson-Foulke and Parks Creek Ranch diversion #1 & 2 Delivery Efficiency Project	Participate in diversion facilities assessment, design and implementation to combine operate and maintain diversions #1, #2 and the Parks Creek Ranch Edson-Foulke right. Delivery efficiency and irrigation efficiency improvements to conserve water and meet the objectives of the Upper Parks Creek Flow Strategy. Site may also include Edson-Foulke Ditch Parks Creek Diversion. 2.8 cfs (1.2 cfs 1st priority, 1.6 cfs 23rd priority) would be provided for instream benefit prior to diverting.	**No progress**	TNC has met preliminarily with Edson Foulke to discuss project concepts. TNC is undergoing ranch-wide planning so until this work is done we will wait to start this work.
Edson-Foulke and Parks Creek Ranch diversion #3, #4, #5 & 6 Delivery Efficiency Project	- Participate in diversion facilities assessment, design and implementation to combine, operate, and maintain diversions #3, #4, #5 and potentially #6 to improve irrigation delivery efficiency and irrigation efficiency to conserve water and meet the objectives	**No progress**	See above.

Project Name	Project Description	Current Status	Description of Progress
Water Quality	Assess, design and if mutually agreeable, provide additional cold water (.2-.6 cfs) to the proposed oversummering reach via by-pass water from Diversion #1 or from Spring Creek.	**In Progress**	TNC is working with consultants on developing a study plan to quantify the spring complex on the property and identify opportunities to return this spring water instream. We are currently seeking grant funding.
Soil Moisture	Soil Moisture Sensors: Install soil moisture sensors per UC Extension Service guidance to improve water efficiency resulting in instream benefit.	**In Progress**	TNC is pursuing funding to install soil moisture and ET stations on the property in partnership with Larry Walker and Associates, Siskiyou County and UCCE.
Tailwater	Tail-water collection and re-use project #1 will be constructed and maintained, to reduce re-entering near the northern end of the property above diversion #6. Collected tail-water will be used in lieu of diverting stream flow at site #6. Project will eliminate up to 0.85 cfs of tail-water re-entry.	**No progress**	No work has begun on this activity. We are starting ranch-wide planning which will inform future irrigation management practices. Until this planning work is done we are not planning to construct new tailwater projects.
Maintain crossing and lanes	Continue to maintain crossings and stock watering lanes	**Maintained**	Full exclusion fencing complete. Stockwatering lanes not used, unless emergency. Crossings maintained.

Project Name	Project Description	Current Status	Description of Progress
Fish Passage	Maintain unimpeded fish passage conditions at all Enrolled Property diversions	**Maintained**	
Fish Screen	Operate and maintain the existing panel fish screens at all of the PODs	**Maintained**	Screens maintained where diversions occurred (PCR 1 and PCR 2 only). No diversion of water occurred at PCR 3-6. We've included data taken by the RCD at these diversion locations. Notes from the RCD regarding the data are included in attached documentation.
Habitat Improvements	Allow access to involved agency staff and approved contractors to implement habitat improvement projects as specified on the Habitat Improvement Map	**In Progress**	TNC convened a TAC meeting (October 2024) with agency and tribal experts to review potential project sites and get advice. BDA's are being explored as part of the habitat planning underway.
Riparian Fencing	Continue to perform yearly maintenance on existing 2.5 miles of riparian fencing	**Maintained**	Fence checked and maintained- in excellent condition.

Project Name	Project Description	Current Status	Description of Progress
Riparian Fencing	Continue to seek funding and implement riparian fencing along the west side of Parks Creek for approx. 2.9 miles of Parks Creek that does not have riparian fencing.	**Complete**	All riparian fencing has been completed.
Riparian Planting	Seek funding, provide materials and assist with riparian planting from Old Hwy 99 to I-5	**In progress**	A riparian zonation plan is being developed as part of the CalTrout/Stillwater Sciences work. This plan will inform future riparian plantings.
Riparian Grazing Plan	Work to develop and Implement the riparian grazing plan with UC Extension service	**Maintained**	A riparian grazing plan has been completed as part of the Site Plan however we've hired a grazing specialist to review the existing plan and make recommendations on how to improve it.
Alternative Stock Water	Assess, design and implement efficient alternative livestock watering system to aid adult migration and spawning by reducing diversion volume to 1.2 cfs.E.3.a5	**Maintained**	Existing stockwater systems have been maintained. We are also writing grants to install 3 additional systems on the property which will allow for future fencing of the east side of Parks Creek Ranch.

Project Name	Project Description	Current Status	Description of Progress
Effectiveness Monitoring Program	Maintain existing network, install three needed real-time stage/flow/temperature stations, further develop dashboard to house all EM stations and POD stations, as well as annual reporting and do data analysis for performance measures	**In progress**	In October 2024, TNC hired Watercourse Engineering to take over the monitoring and maintenance of effectiveness gages on the property including UPC, PCE, and PME. Data is included with this report. The QAPP plan for these sites is also attached. In December 2024, TNC installed temperature probes in diversions PCR 3-6 to document that diversion is not occurring at these locations. We will include this data during the next reporting period.

14. Shasta Springs Ranch

Shasta Springs Ranch is located north of Edgewood, California, and east of Interstate 5. The headquarters are accessed from Slough Road, which roughly approximates the west boundary, though the easement is not exclusively on or associated with the property line. The Permittee's other properties, the Hole in the Ground and Seldom Seen ranches, share boundaries to the north and northeast. One other private landowner borders the Ranch to the east, south, and west.

Parks Creek and Kettle Springs Creek flow through the Enrolled Property. Significant springs, two of which are sometimes referred to as Black Meadow and Bridge Field, emerge at the west margin of the ridge between Lake Shastina and the Ranch. The water from these and other unnamed springs is collected in manmade and natural channels, eventually flowing into Parks Creek, approximately 4.5 miles upstream of the confluence with the Shasta River.

For the purposes of this Report, activities on the Ranch have the potential to influence the mid- and Lower Parks Creek sub-reaches. See Table below for Shasta Spring's reported progress on SHA commitments.

Project Name	Project Description	Current Status	Description of Progress
Cattle Access	Cattle access to the channel will be excluded or restricted to crossings, watering access points, and/or limited season/stocking/ duration that conserves water quality	**Maintained**	Photos were submitted with Annual Report
Maintain Tailwater Berms	Agree to continue maintenance of tailwater berms	**No Progress**	No maintenance required
Minimize Tailwater	Continue irrigation practices to minimize/eliminate tailwater	**Completed**	
Kettle Springs Project	Continue to operate and maintain new (2017) Kettle Springs spring source management structure, as designed	**Maintained**	Maintenance in 2024 included: battery replacement in irrigation flow meter, motherboard replacement in irrigation flow meter, program coding updates and wiring maintenance, removing and replacing structure boards as applicable, clearing as much as possible the blockages in irrigation delivery valves/pipes, weed whacking around structure, and routine clearing of algae and debris from within structure.
Soil Moisture Sensing	Collaborating with UCCE in research testing applicability of soil moisture monitoring technology to improve irrigation efficiency	**In progress**	

Project Name	Project Description	Current Status	Description of Progress
Water Quality	Agree to conduct evaluation of water quality conditions in and in the vicinity of the road crossing over Kettle Springs Creek and implement projects to diminish/eliminate impacts from irrigation or pasture management	**Completed**	Water quality evaluation completed and reported on in 2022.
Bypass Upper Parks Flow	Participate in, including bypassing flow from Upper reach, Parks Creek Flow Strategy	**Maintained**	Bypass flow plan by upstream diverters have not been initiated.
Mid Parks Evaluation	Agree to further evaluation to determine feasibility of getting spring water on east margins of fields east of the Mid-Parks Creek to alcoves or reconfigured Mid-Parks reach (Mid-Parks Creek Project)	**In progress**	EII is continuing to seek appropriate funding.
Parks 1 and Parks 4 Diversion Combine	Combine EII Parks 1 and 4 diversions, would leave Parks 1 water (2 cfs) instream at times during spring season (March 1- June 1) to extend migration through reach and add efficiency and management flexibility in combination with Bridgefield and Blackmeadow work- probably a SHRP and CatX.	**In progress**	EII is continuing to seek appropriate funding sources. This process is on-going.

Project Name	Project Description	Current Status	Description of Progress
Parks #5 operation	Continue to maintain and operate Parks #5 improved POD infrastructure, complying with current CDFW requirements for passage, bypass flows, and screening	**Maintained**	
Kettle Springs Tailwater	Agree to construct enhanced tailwater berm if applied irrigation is found to still be creating tailwater returning to Kettle Springs Creek as surface water	**Completed**	No construction of additional berms necessary. See 2022 SHA Shasta Springs report for details on water quality investigation.
Bridgefield and North Slough Water Quality Eval	Agree to conduct water quality investigation of Bridge Field Springs Creek and the North Slough	**In progress**	Supplemental report was performed and submitted for review in 2022.
Redd/spawner survey	Continue to conduct redd/spawner surveys	**Maintained**	2024-2025 Spawning Survey_tech_memo_FINAL was submitted with Annual Report.
I-5 Passage Improvement	Agree to continue cooperation in project to eliminate potential salmon migration barrier on upstream landowner (Parks Cr under I-5)	**Completed**	Completed

Project Name	Project Description	Current Status	Description of Progress
Beaver Management Plan	Agree to develop and implement beaver management plan to alter or provide access around potential migration barriers at dams	**In progress**	Plan completed in 2023
Riparian Grazing Management Plan	In the sub-reaches of Parks Cr. without exclusion fencing, Cattle access to the channel and riparian zone will be restricted to crossings and/or limited season/stocking/ duration that conserves habitat quality, consistent with recommendations of UCCE Range Conservation Specialists (Attachment Tate & Rivers, 2016)	**Completed**	
Wheat Field Fencing	Shasta Springs Ranch will temporarily or permanently fence the Wheat Field pasture, if necessary, to achieve the stated management goals.	**In progress**	Permanent riparian fencing installation is in progress and on-going through the USFWS Partners Program Grant.
Riparian Fencing	Agree to maintain existing riparian exclusion fencing or, if modified, riparian pasture fencing with associated grazing plan developed in consultation with UCCE Range Conservation Specialists	**Maintained**	No maintenance required.

Project Name	Project Description	Current Status	Description of Progress
Riparian Fencing	Will replace, out-of-pocket, up to 20% of riparian fencing damaged by high flow events and seek additional funding if necessary to complete repairs	**No progress**	No maintenance required.
Riparian Planting	Permittee agrees to monitor survival of riparian plantings at Parks#5 and replace damaged beaver enclosures until cuttings are established	**Completed**	See 2022 SHA Shasta Springs report for documents on riparian planting survival monitoring.
Cattle Access/crossings	Seven livestock/ vehicle crossings/ watering access lanes will be maintained as rocked fords (Section E.1.d.) One instream stock water only access point will be maintained with rock and panels, minimizing erosion potential to bank	**No Progress**	No crossing maintenance required. Did not utilize in 2024.
Riparian Grazing	In the subreaches of Parks Cr. without exclusion fencing, Cattle access to the channel and riparian zone will be restricted to crossings and/or limited season/stocking/duration that conserves habitat quality, consistent with recommendations of UCCE Range Conservation Specialists	**Completed**	

Project Name	Project Description	Current Status	Description of Progress
Substrate Quality	Seven livestock/vehicle crossings/watering access lanes will be maintained as rocked fords. One instream stockwater only access point will be maintained with rock and panels, minimizing erosion potential to bank	**Completed**	No Maintenance required
Effectiveness Monitoring Program	Reasonable access for monitoring salmonid use of created/restored habitat at Kettle Springs and Mid Park, East side Pastures and Spring Channel Renovation Projects.	**In progress**	Spawning surveys were performed in 2024- supplemental report was submitted
Monitoring	Allow for PCI, PCM and KSC effectiveness Monitoring stations to be maintained and rate	**In Progress**	Continued to be willing to provide access as necessary.

Appendix A - Effectiveness Monitoring Data

The effectiveness monitoring station installation is in process and the third-party monitoring scope of work and contract was initiated during the 2022 reporting year. The following graphs are data reports that were included in the 2022 Annual Reports or the data was downloaded from the real-time stations on CDEC or from the Eyasco Grabdata site that is established for SHA monitoring. All raw data was also submitted as part of the annual reports and will be used for the 5-year analysis that is part of the SHA.

MWCD Data: Upper Shasta

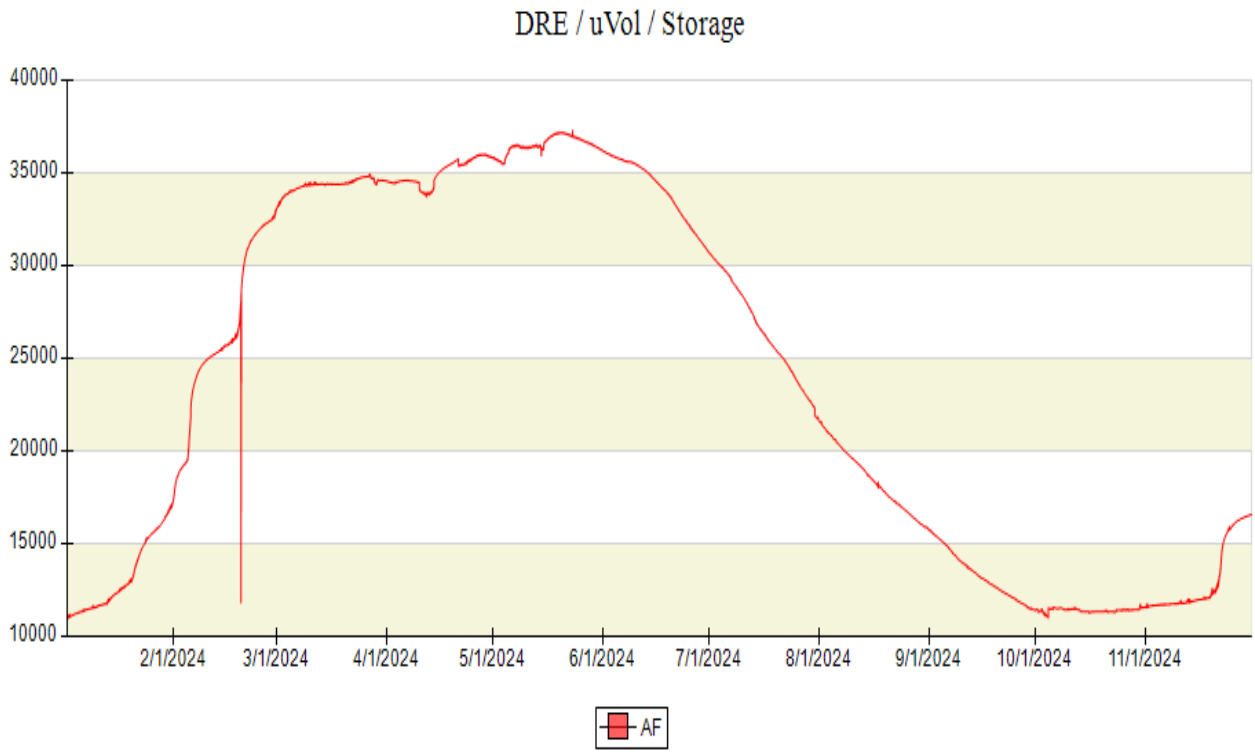

Figure 1- Dwinnell Reservoir Storage for 2024, shows a maximum storage of 37208 ac-feet around the end of May and dropping to around 8000 ac-feet in October. Classified as a "normal water year."

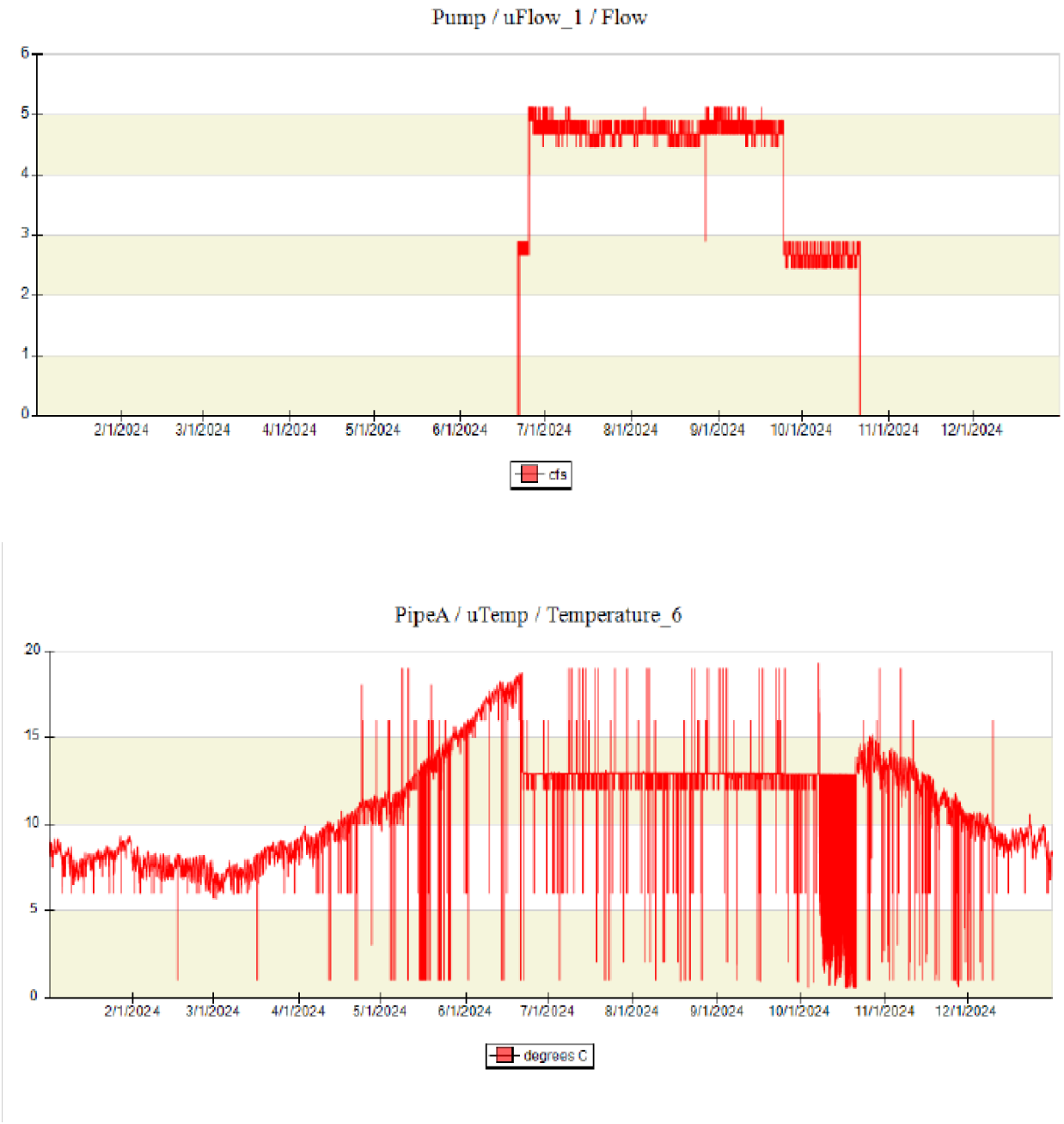

Figure 2 - Flying L Groundwater Contribution for 2024 in cfs in the first graph, showing pumping rates at 5 cfs between July through end of September, dropping to 3 cfs in October. The second graph shows temperature recorded from the pipeline delivering water from well to cold water habitat- Temperature of water released is generally a consistent 15 degrees C.

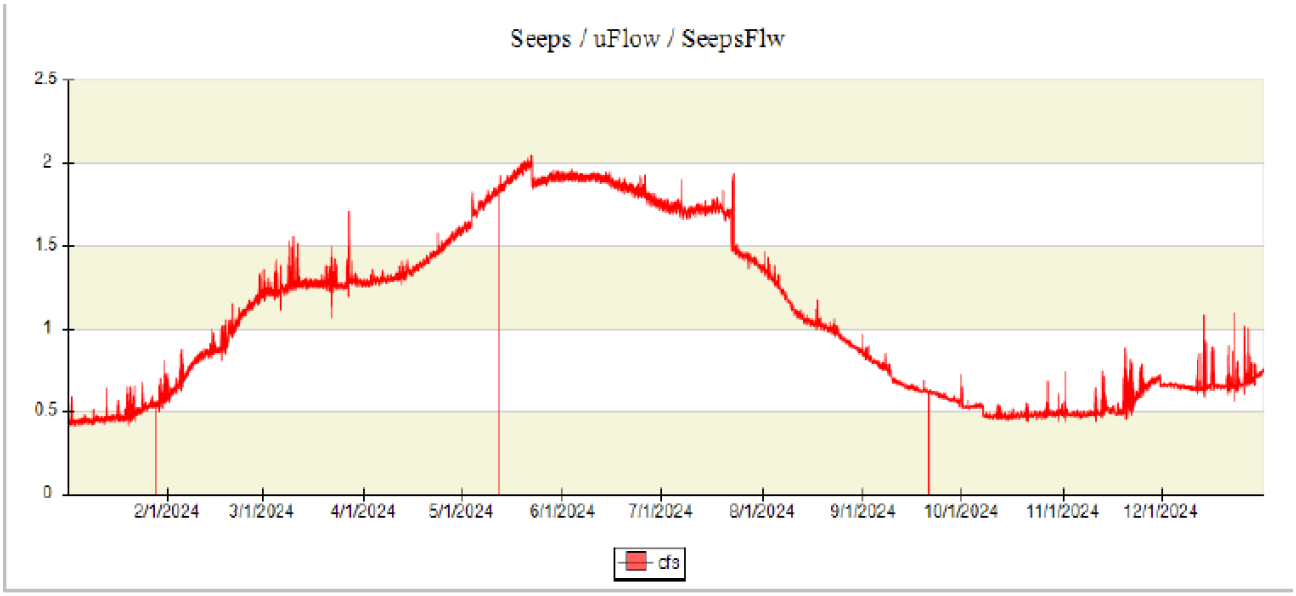

Figure 3 - Seep Flow below dam into cold water habitat showing between 0.5 cfs up to a maximum of 2 cfs in Mid-May, dropping off to approximately 0.5 cfs in October gaining a little at the end of the calendar year.

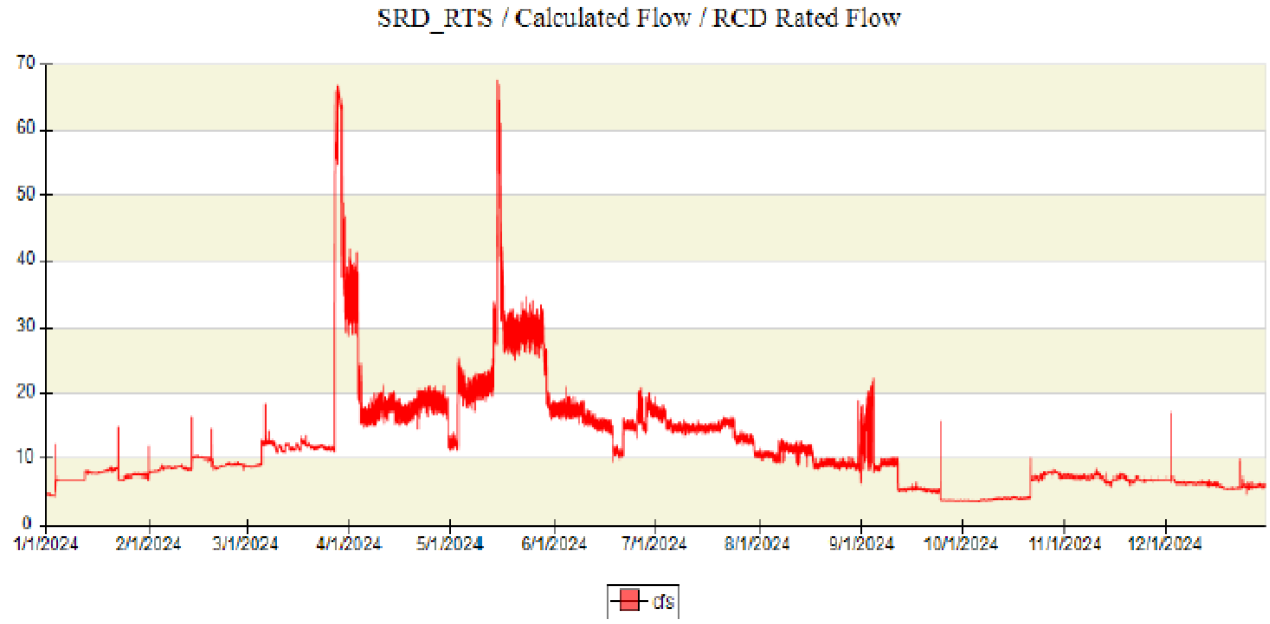

Figure 4 - SRD is the total flow leaving MWCD property in (cfs). Showing discharge amounts between 3 cfs to a maximum of 68 cfs in early April and again in Mid-May as scheduled pulse flow releases.

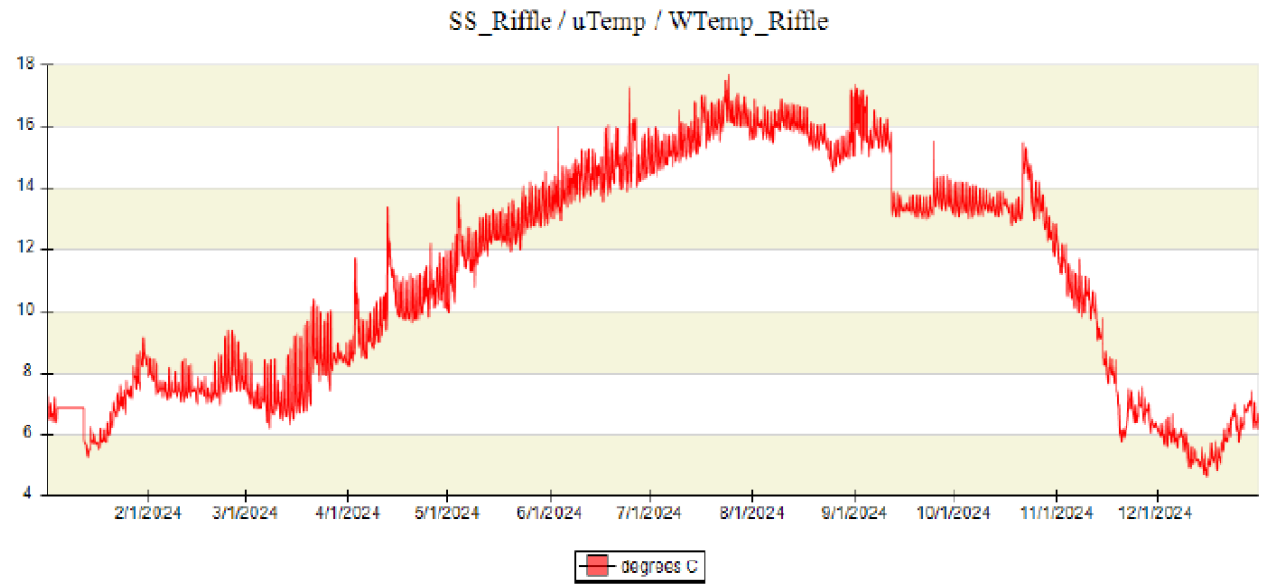

Figure 5 - Seldom Seen monitors the temperature of water leaving MWCD at SRD in degrees C. Temperatures were as low as 6 degrees C in March and as high as 17.5 degrees in July, never hitting 18 degrees C during the 2024 season.

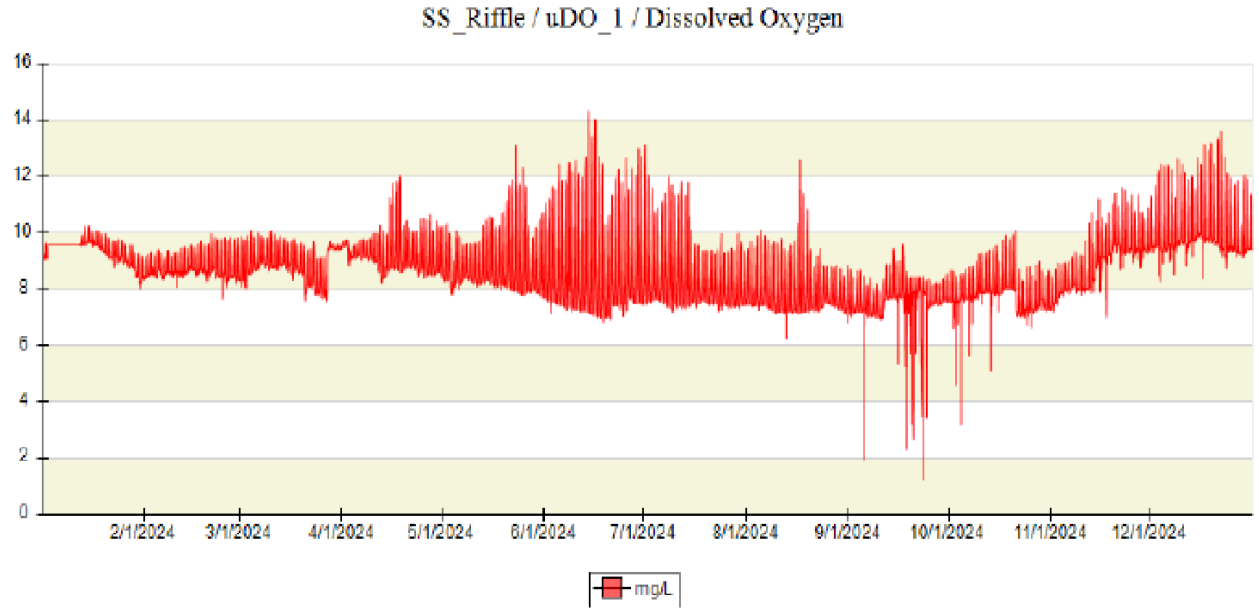

Figure 6 - Dissolved Oxygen below MWCD at SRD in mg/l, showing DO levels mostly staying around 8 mg/l throughout the season with some diurnal fluctuation and a period in September when DO dipped to 2 mg/l, which may have been instrument fouling.

Hidden Valley Data

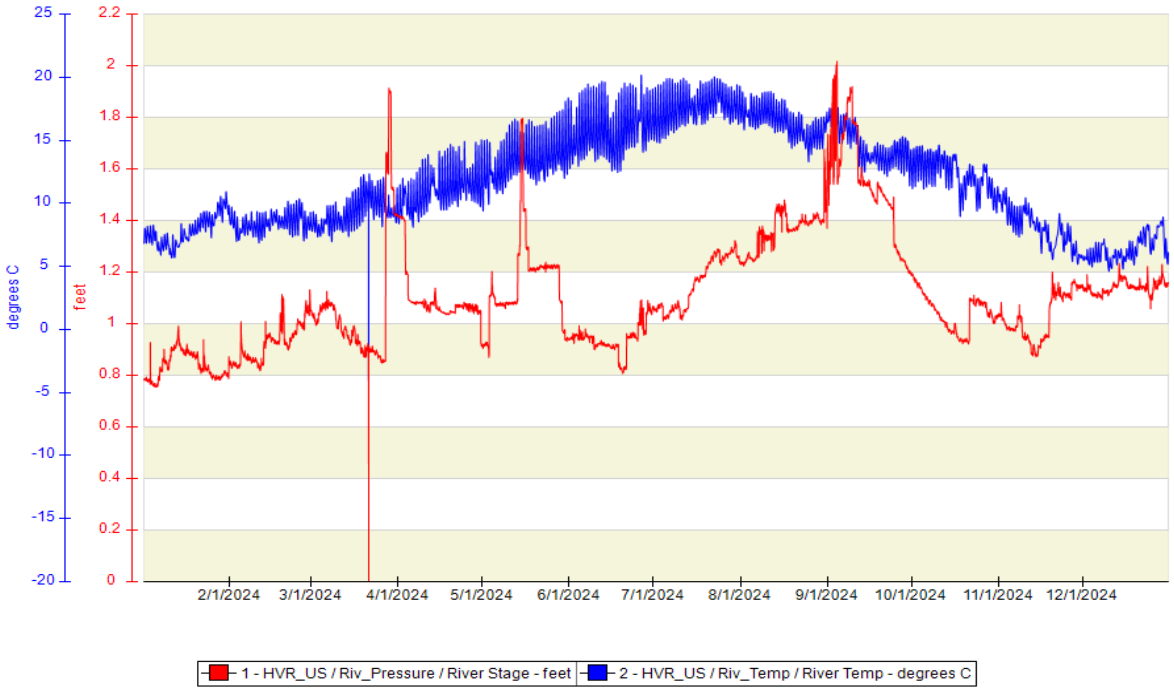

Figure 7 - Temperature in degrees C and Stage in feet at HVR-US, reporting temperatures at this location staying below 20 degrees C throughout the season.

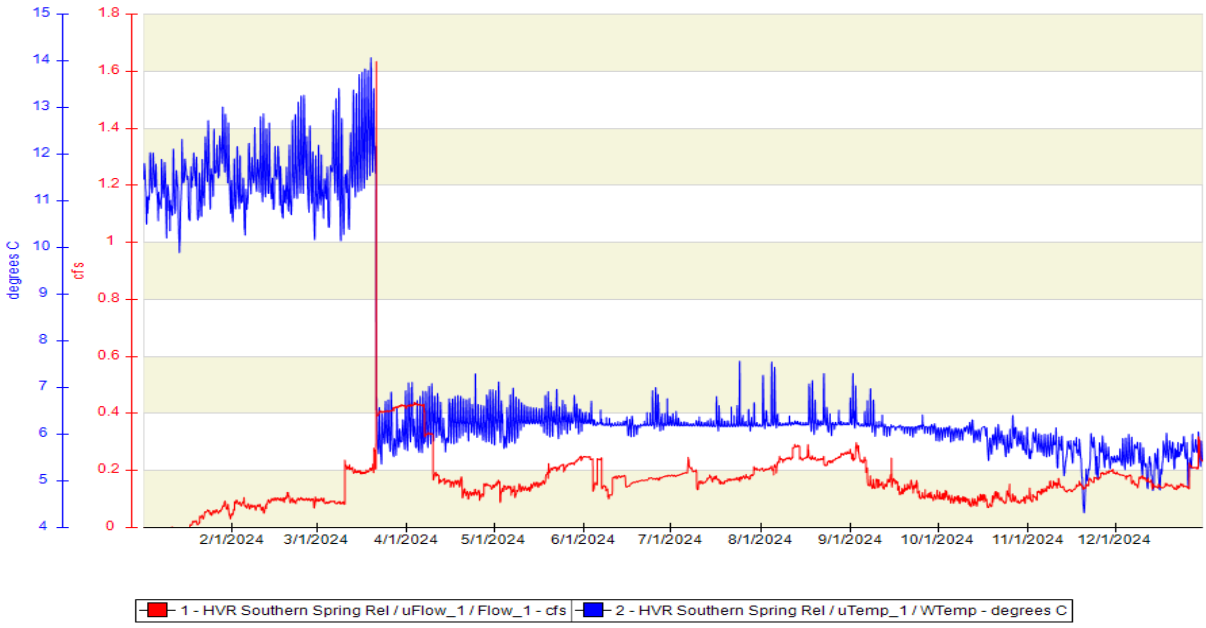

Figure 8 - HVR spring Water Released to Shasta River from Southern Spring in cfs, reported to fluctuate throughout the season. HVR Spring Water Released at Southern Spring in degrees C, reporting temperatures of water released to be generally below 15 degrees C.

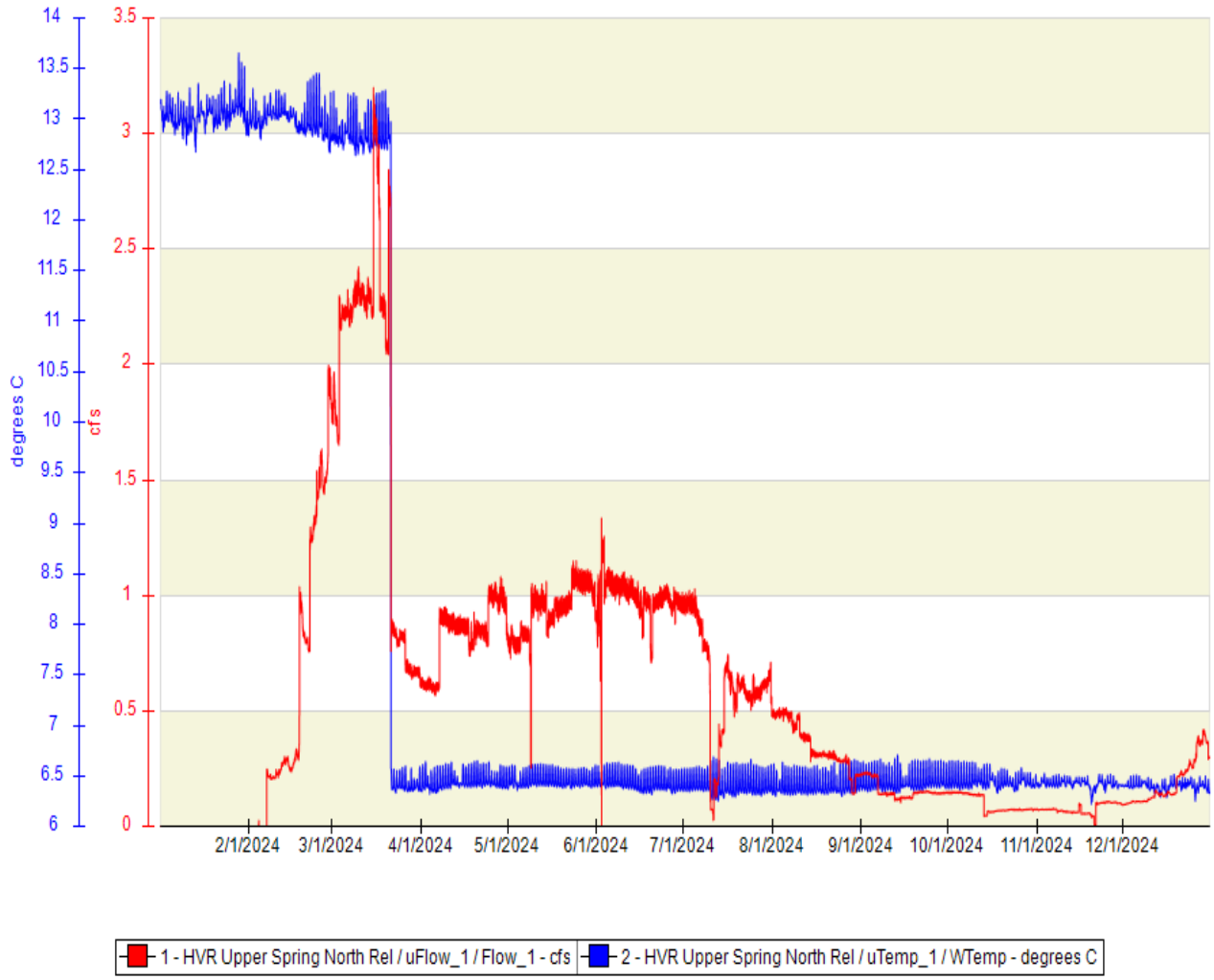

Figure 9 - HVR Spring Water Released from Upper Spring to the Shasta River at Northern Weir in cfs, reporting spring water was released consistently throughout the irrigation season, with a maximum of 3 cfs being delivered in March. Temperature of HVR Spring Water Released from Upper Spring to the Shasta River at Northern Weir in Degrees C. A maximum temperature of water released from the Upper Spring was 13.9 degrees C decreasing to 6.5 degrees C. This may indicate that the flow recorded from late March and on at this weir may only be standing water in the weir box.

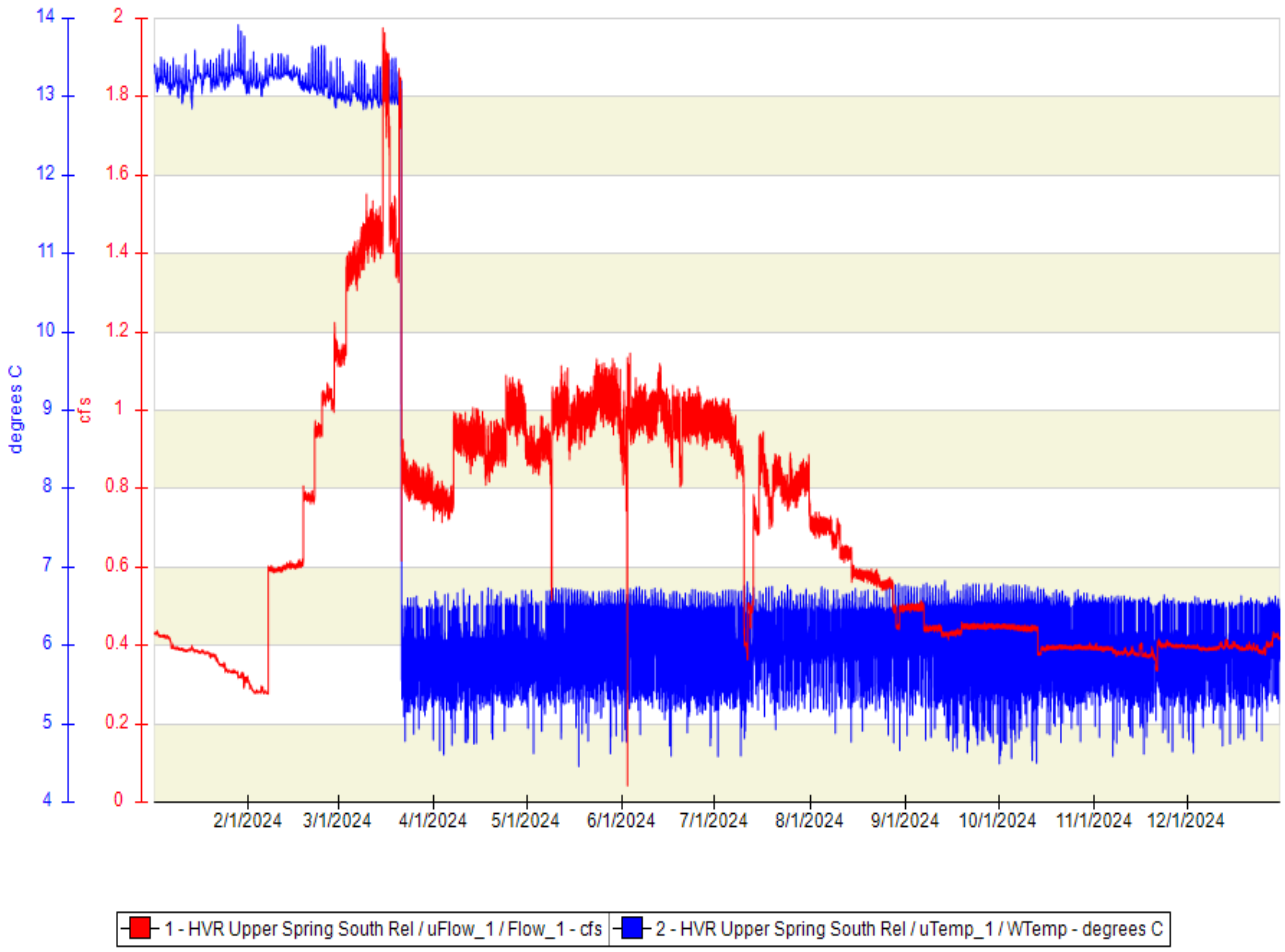

Figure 10 - HVR Spring Water Released from Upper Spring to the Shasta River at Southern Weir in cfs, reporting spring water was released consistently throughout the irrigation season, with a maximum of 2.25 cfs being delivered in late June.

Temperature HVR Spring Water Released from Upper Spring to the Shasta River at Southern Weir in Degrees C was reported to be between 12.5- and 14.25-degrees C in Spring and then temps dropped to between 3- and 7-degrees C. This may indicate standing water in weir box and not actual flow into river.

Hole in the Ground Data

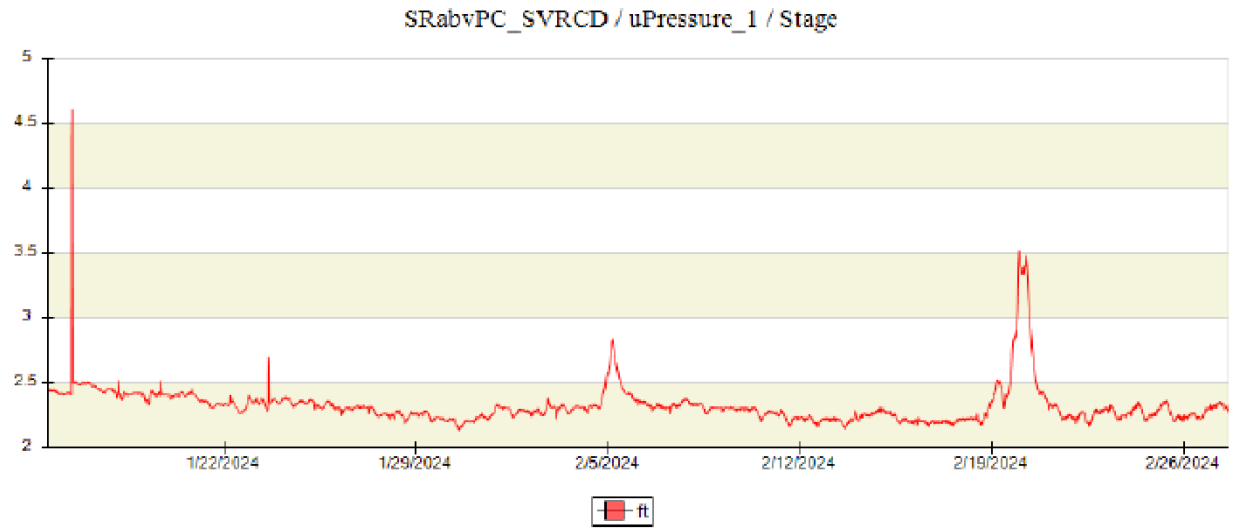

Figure 11 - Shasta River above Parks Creek (SRabvPC) - stage. This station is not currently rated and stage shows relatively consistent depth.

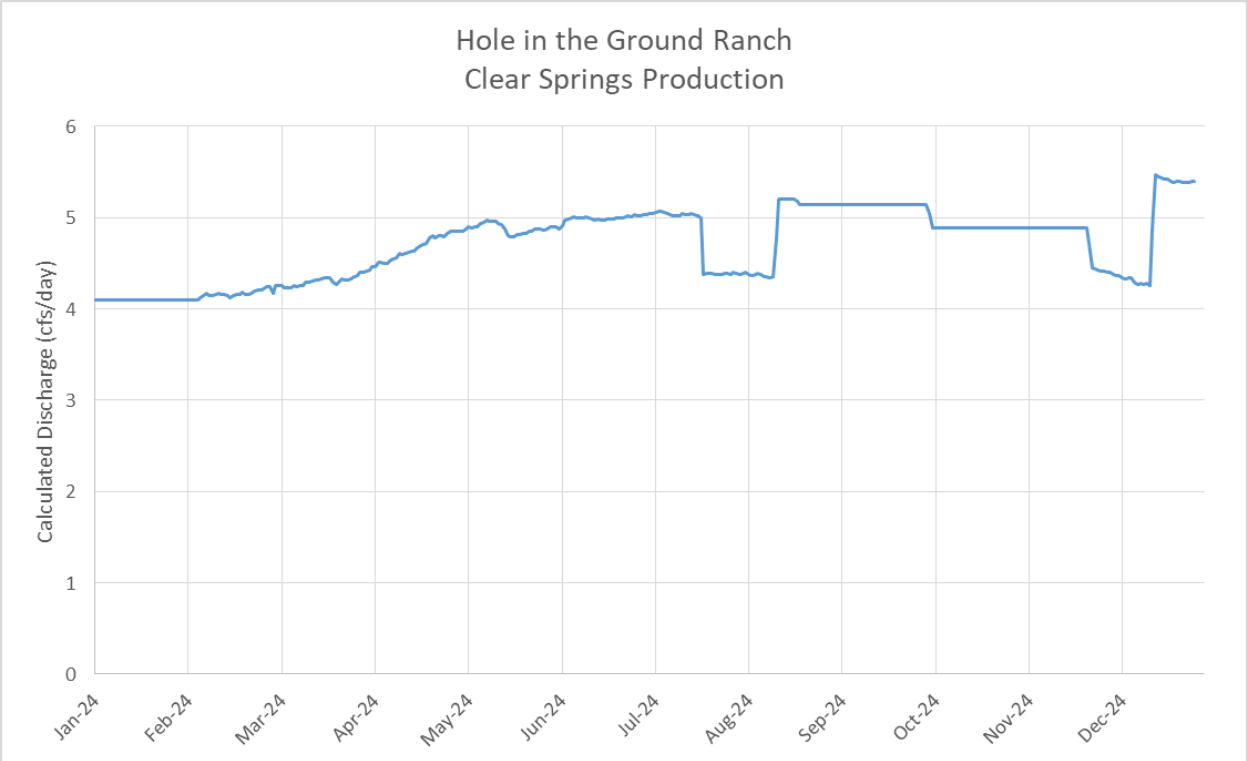

Figure 12 - Clear Spring Production was monitored in 2024 and reported above 4 cfs during the reporting period.

Big Spring Wildlife Area

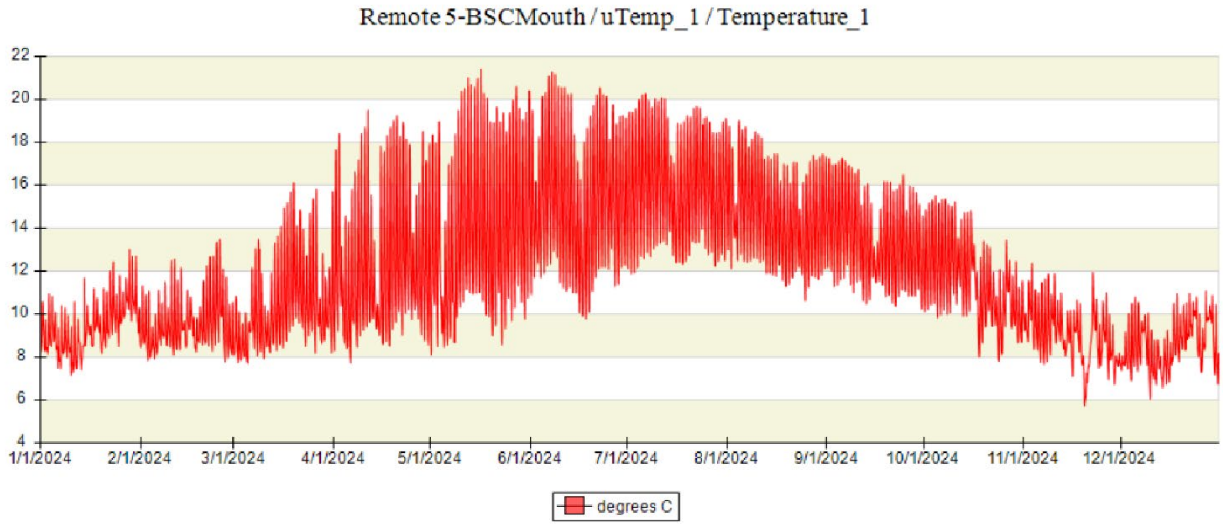

Figure 13 - Big Springs Creek Mouth Temperature in degrees C reported temperatures leaving Big Springs Creek were between 6- and 22-degrees C.

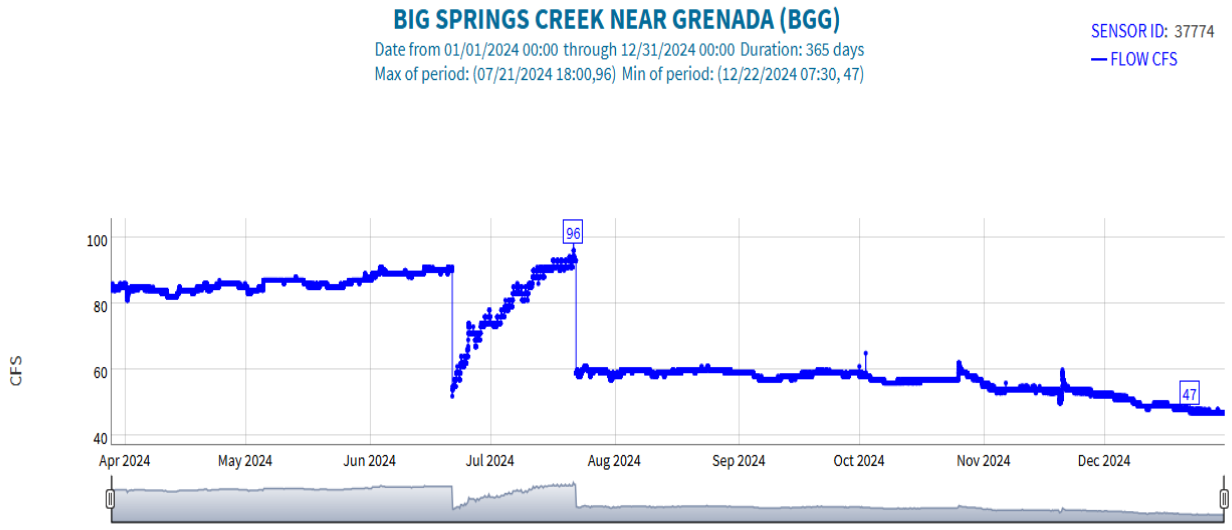

Figure 14 - Big Springs Creek (BGG) reported discharge in cfs as high as 96 cfs in July 2024 and as low as 47 cfs December 2024.

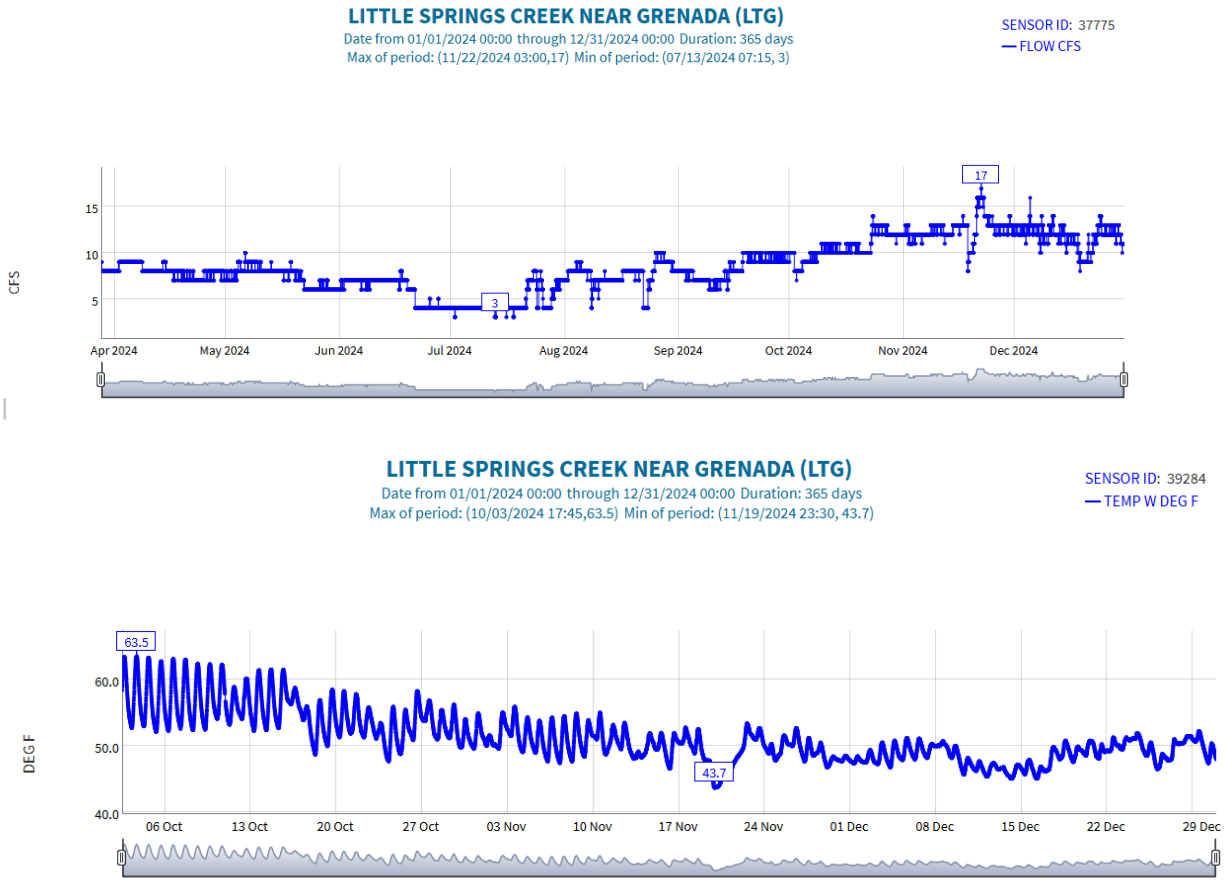

Figure 15 - Little Spring Creek on Big Spring Wildlife Area reported discharge as high as 17 cfs and as low as 3 cfs for the reporting period and temperatures as high as 63.5 degrees F (17.5 degrees C) and as low as 43.7 degrees F (6.5 degrees C).

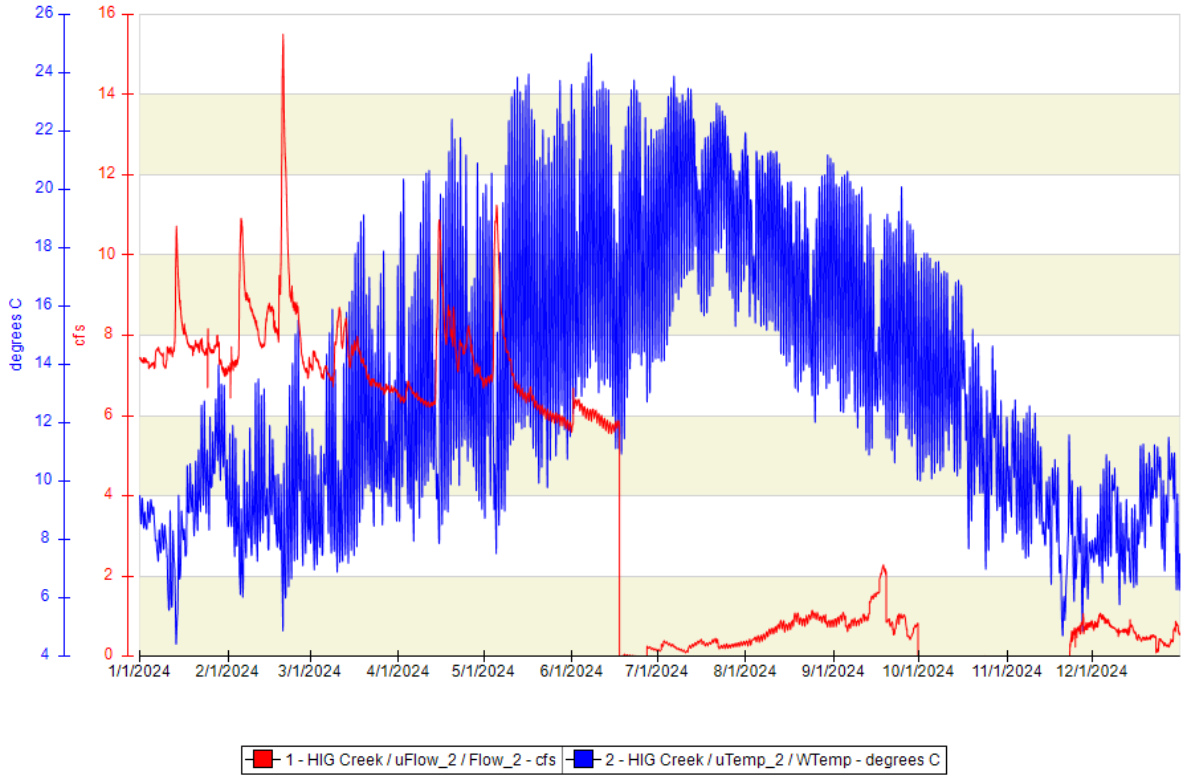

Figure 16- Hole in the Ground Creek Temperature in degrees C and Flow in cfs. This station reported discharge to be as high as high as 15.5 cfs with temperatures reaching between 5- and 24-degrees C.

Grenada Irrigation District

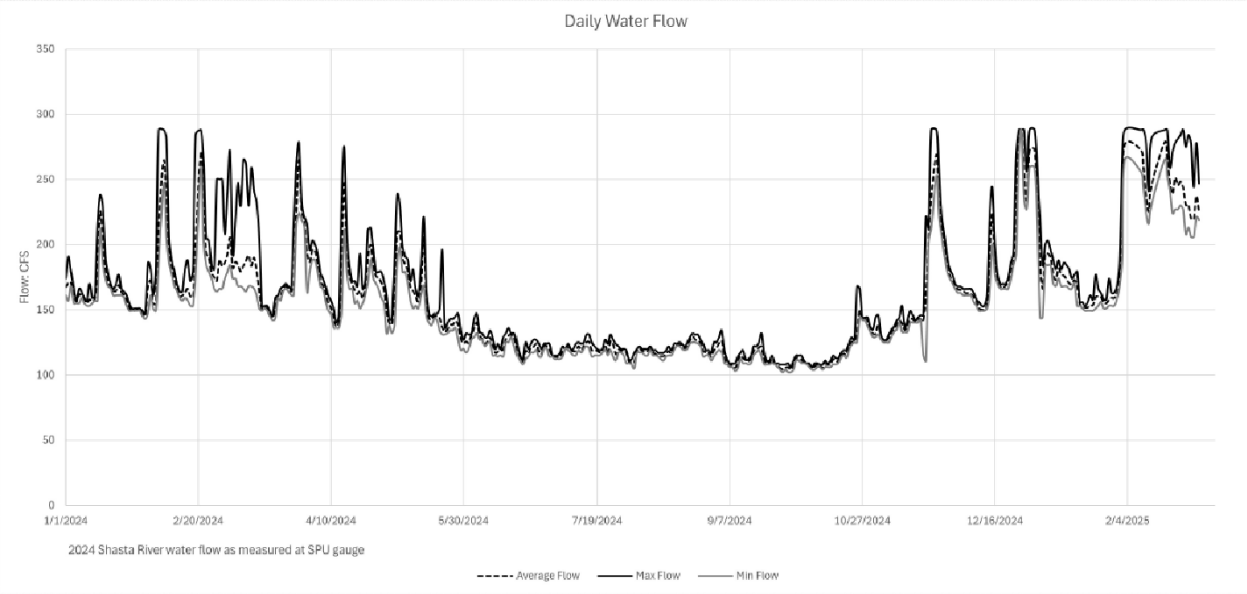

Figure 17 - Daily Flow at GID Riffle (SPU) in cfs reported as minimums and maximums ranging from 100 cfs to over 275 cfs.

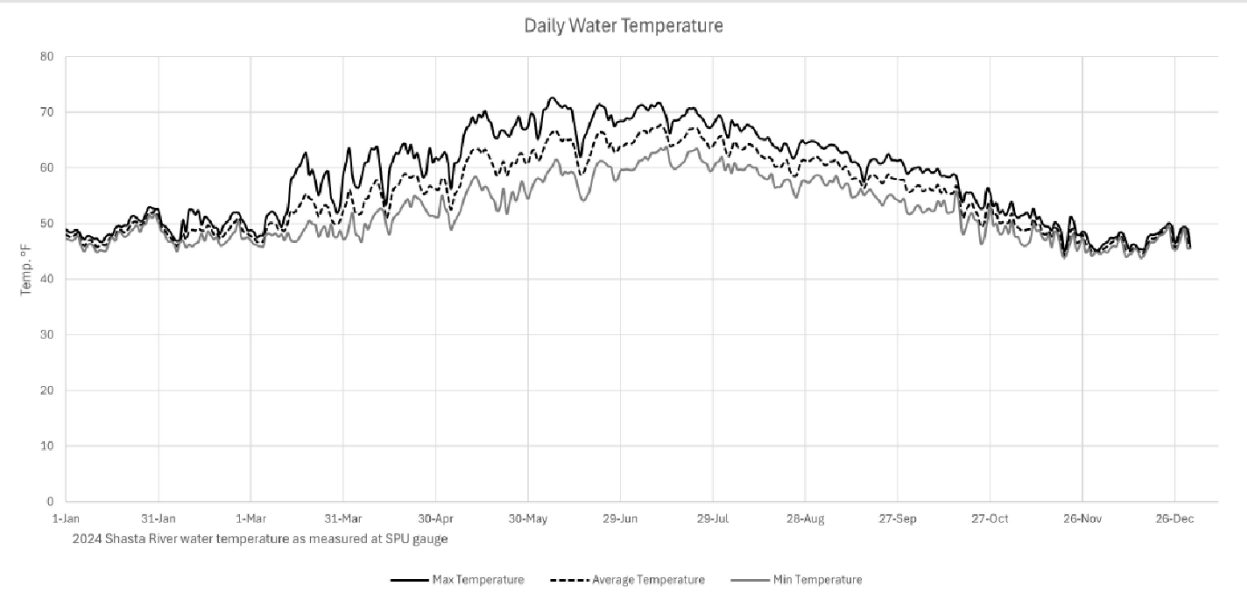

Figure 18 - Daily Temperature at GID Riffle (SPU) in degrees F reported as minimums and maximums ranging from 45 to 73 degrees C.

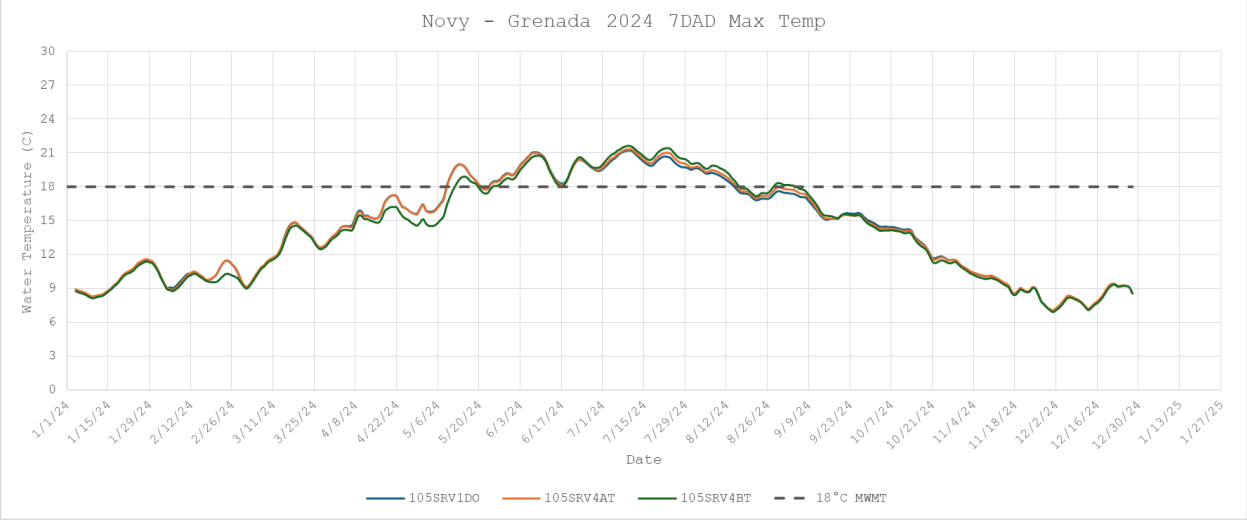

Figure 19 - 7-Day Max Temperatures on Novy Ranch ranging from 6 to 21 degrees C.

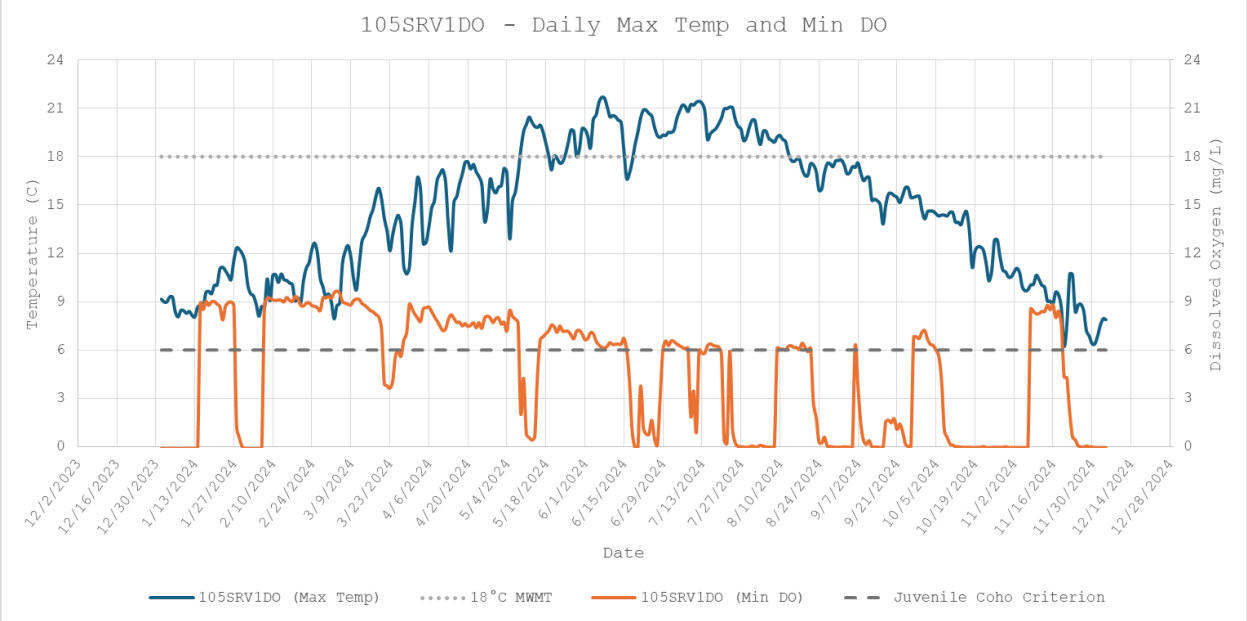

Figure 20 - Daily Max Temperature in degrees C and Daily Minimum Dissolved Oxygen on Novy Ranch in mg/l, reporting DO levels fluctuating between 0 and 9 mg/l and daily maximum temperatures between 6and 22 degrees C.

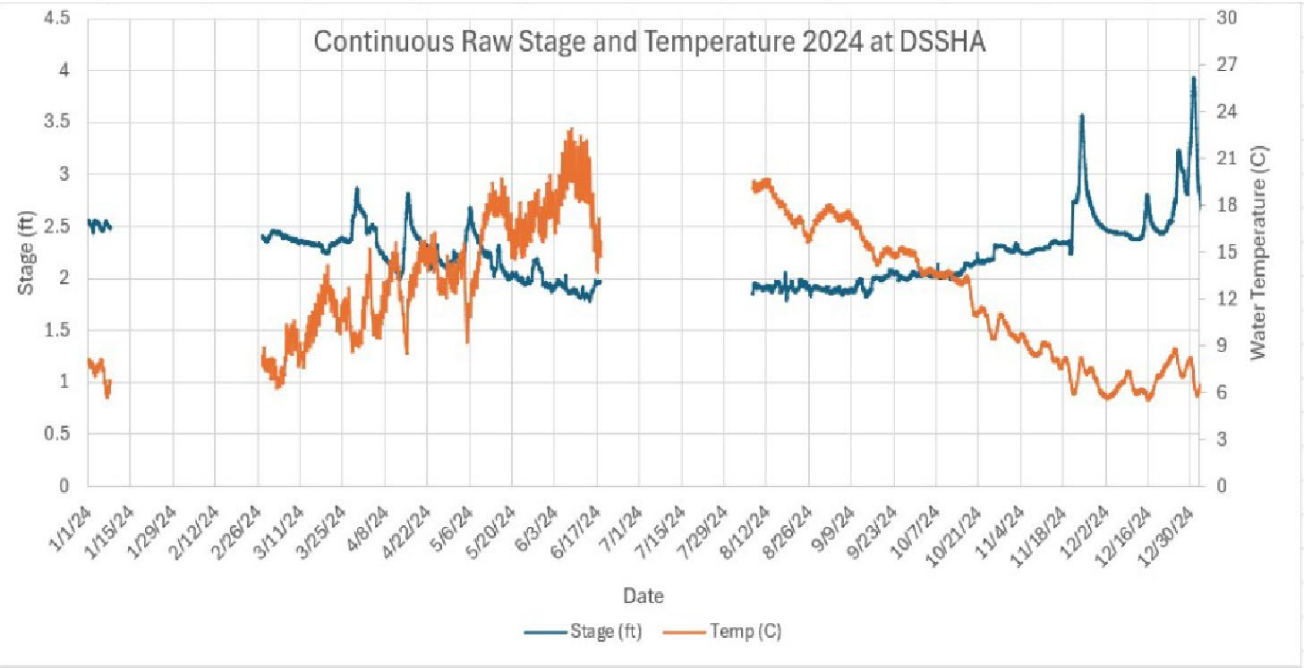

Figure 21 - Temperature in degrees C and Stage in feet at Bottom of Agreement Area (DS-SHA/SBG). Reported real-time flow was consistently around 100 cfs throughout monitoring period of April 1 to December 31, with temperature reported between 7- and 23-degrees C.

Upper Parks Creek Data

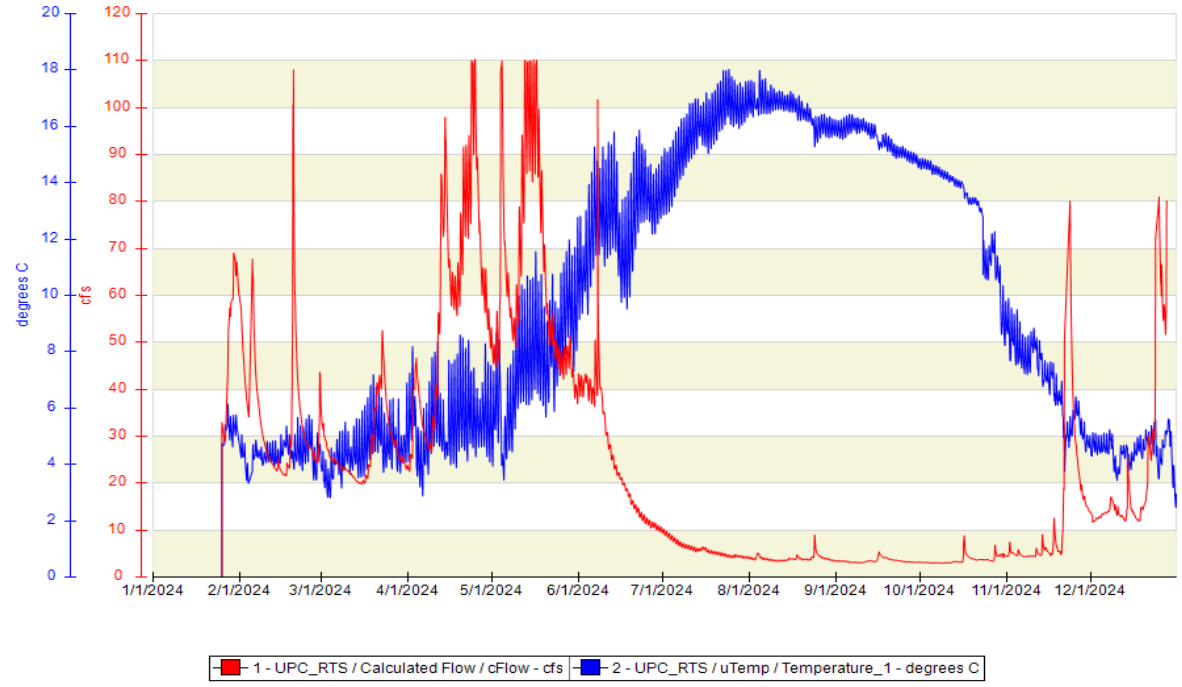

Figure 22 - Discharge in cfs at Upper Parks Creek (UPC) upstream of SHA covered area reported maximum flows up to 110 cfs and minimum flows of 5 cfs with temperatures between 4 degrees C and 18 degrees C.

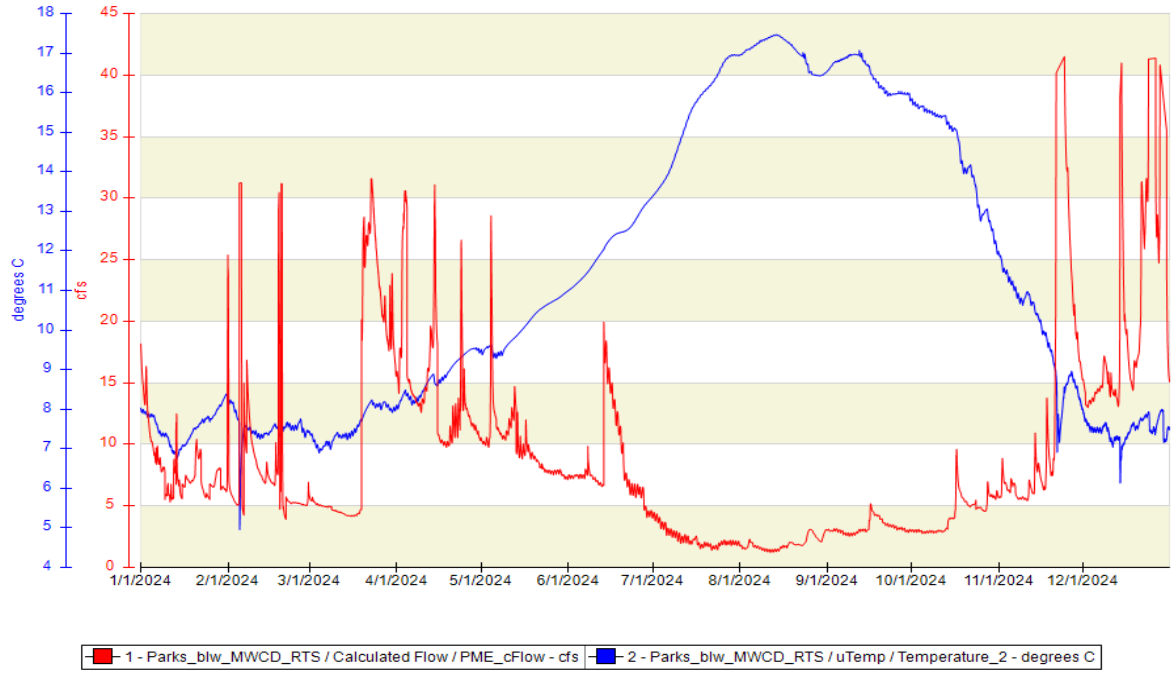

Figure 23 - Flow reported in cfs at Parks Creek below MWCD Diversion (PME) bypassed flow by MWCD Parks Creek diversion was between 5 cfs and 32 cfs throughout spring, with a max bypass of 42 cfs in late November and into December. Temperatures at this station were between 6 degrees C and 17 degrees C.

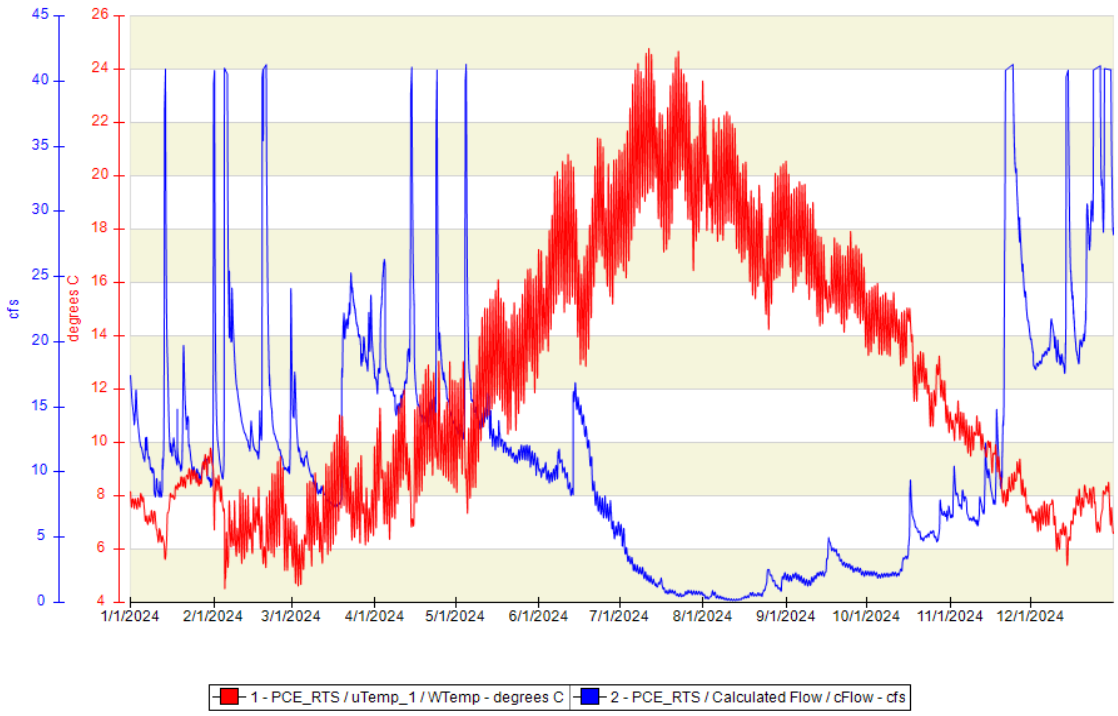

Figure 24 - Flow in cfs at Parks Creek at I-5 (PCE) where flows were reported to be a maximum of 42 cfs and a minimum of 0.82 cfs. Temperatures at these stations were between 5 degrees C and 24.5 degrees C.

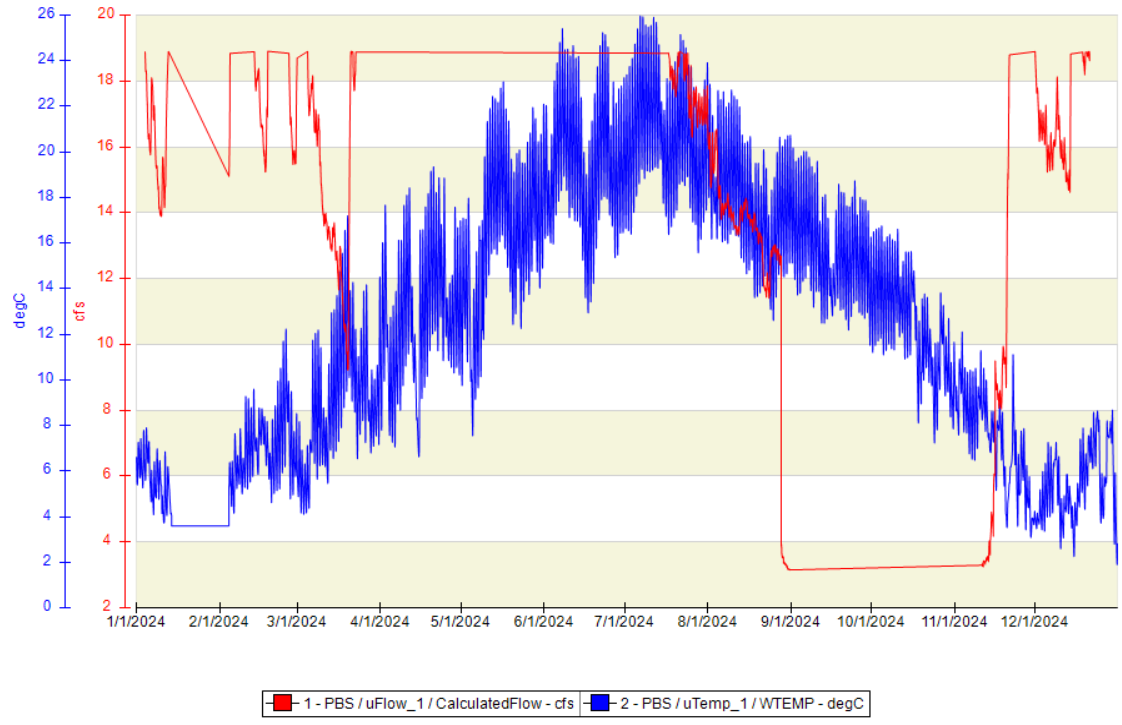

Figure 25 - Temperature in degrees C and Flow in cfs at Lower Parks (PBS). Maximum flows were reported to be as high was 19 cfs and a minimum of 3 cfs. Maximum temperatures were as high as 26 degrees C in July 2023. The flat lined discharge shown in this graph is likely indicative of this station being offline or recording stage above/below the approved rating curve.

Appendix B - Diversion Monitoring Data

The diversion monitoring was to be commenced within three years of the Effective Date of the Agreement per Section A1 of the Avoidance and Minimization Measures of the Template SHA. The third-party monitoring scope of work and contract was initiated during the 2022 reporting year to assist permittees with reporting water use. The following graphs are data reports that were included in the 2024 Annual Reports or the data was downloaded from the real-time stations on the Eyasco grabdata site that is established for SHA monitoring. All raw data was also submitted as part of the annual reports and will be used for the 5-year analysis that is part of the SHA.

Diversion Data for Edson Foulke

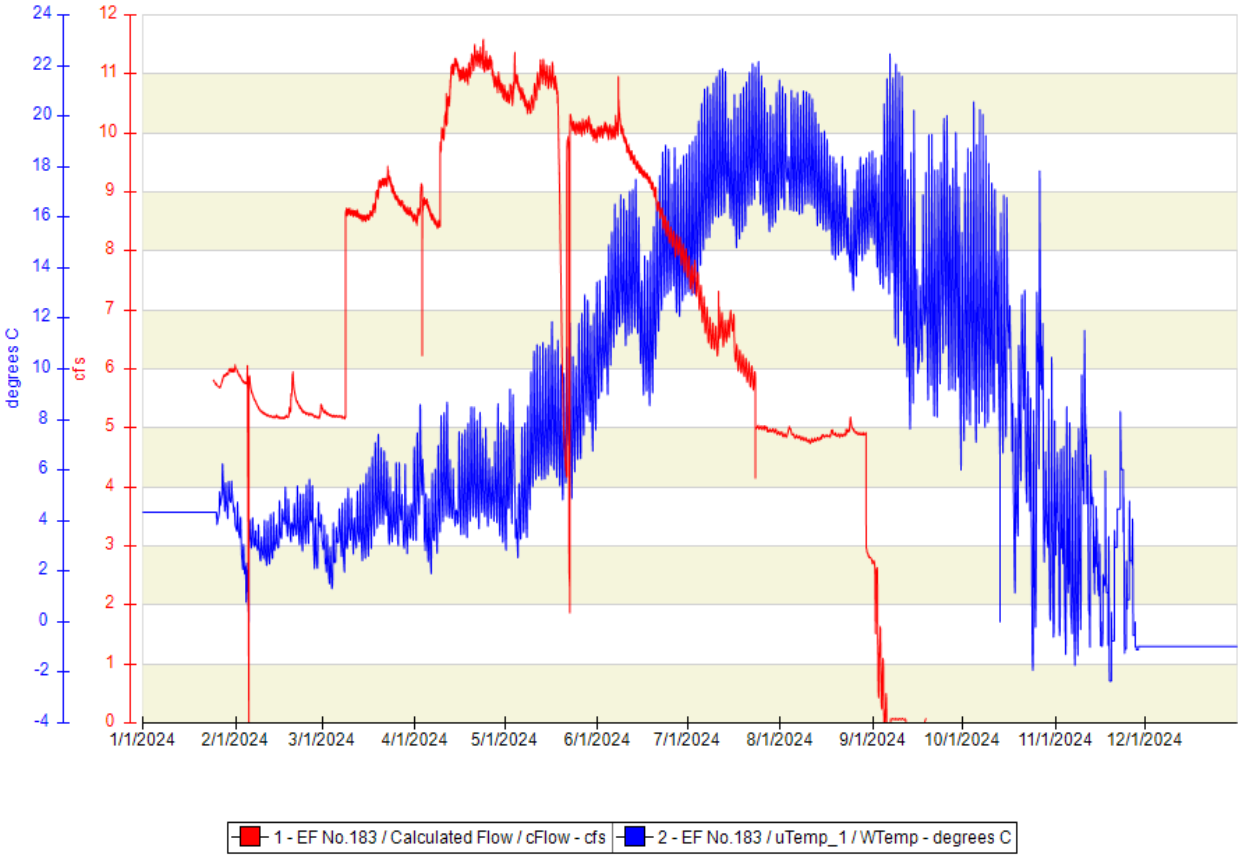

Figure 26 - PCR and EF POD 183 Discharge (cfs) and Temperature (degrees C) - EF/PCR diverted up to 11 cfs in 2024.

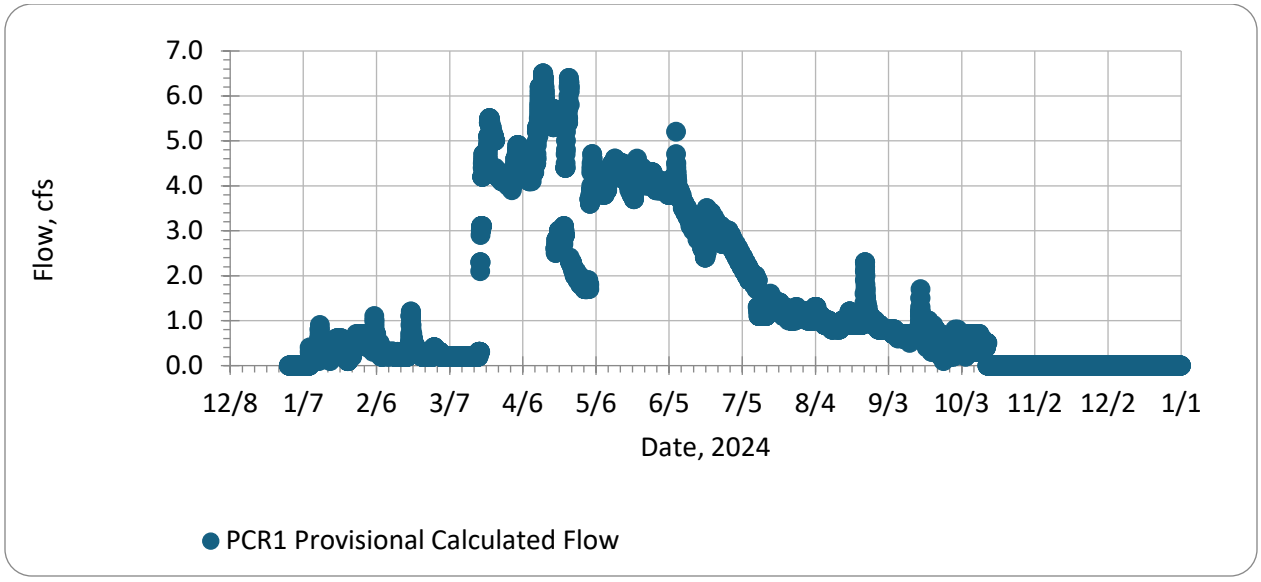

Figure 27 - Parks Creek Ranch #1 Diversion Data

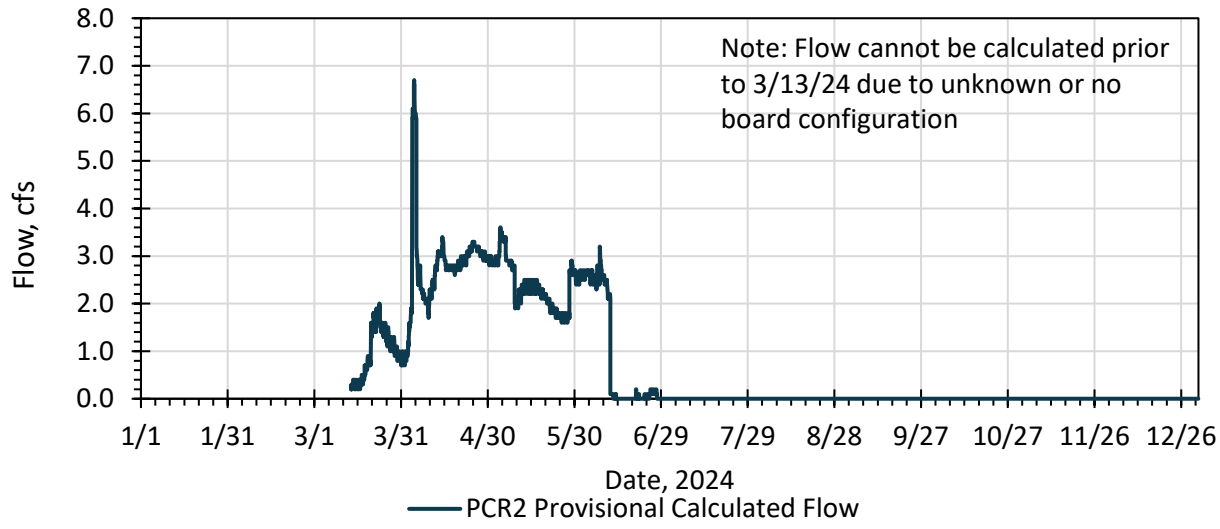

Figure 28 - Parks Creek Ranch #2 Diversion Data.

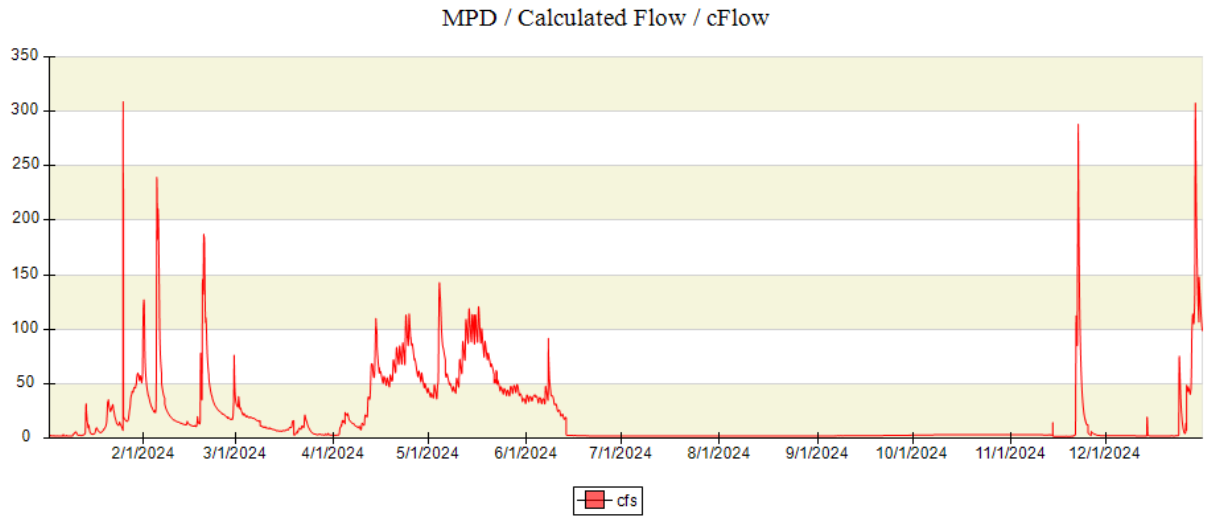

Figure 29 - MWCD Diversion on Park Creek in cfs was reported as high as 300 cfs in January and the diversion was on until June 15th.

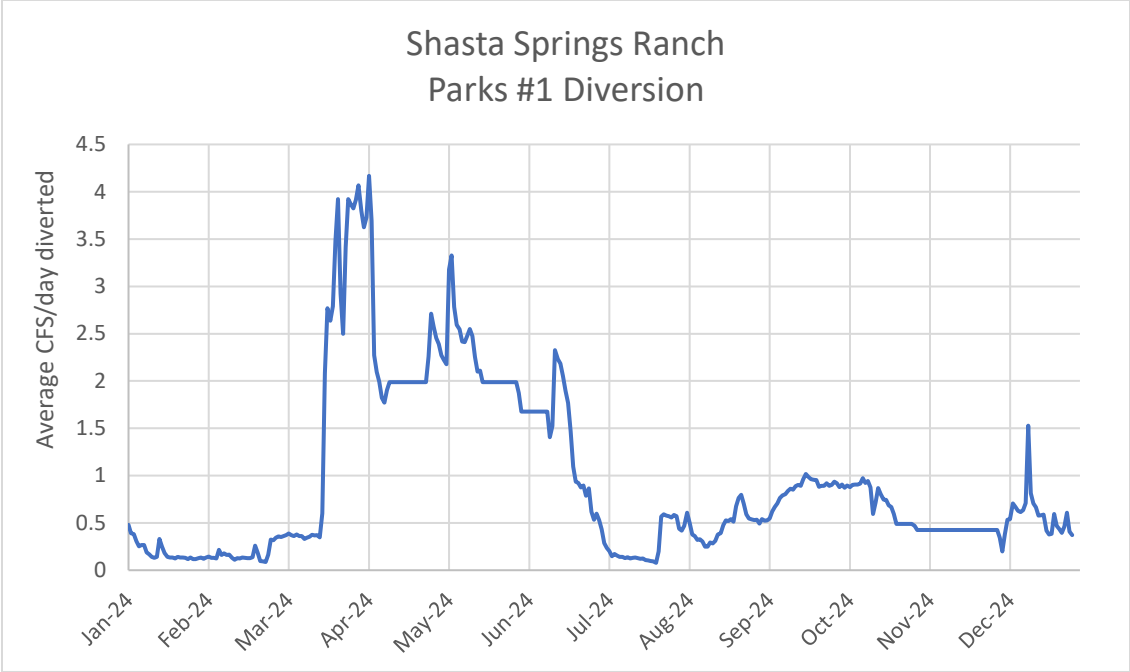

Figure 30 - EII Parks #1 Diversion (Average cfs/day)

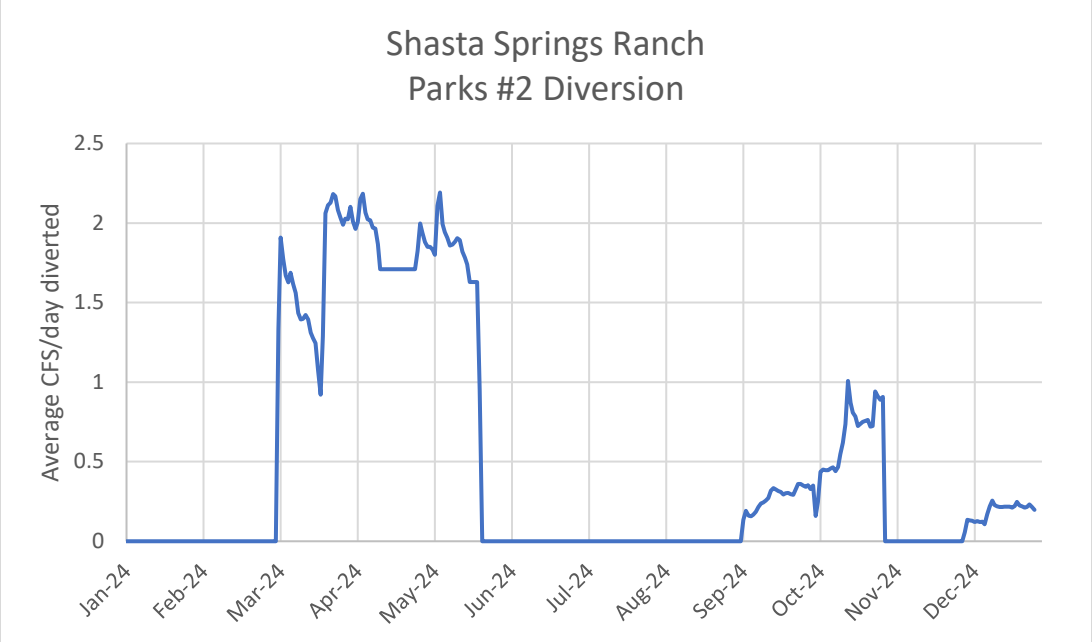

Figure 31 - EII Parks #2 Diversion (Average cfs/day)

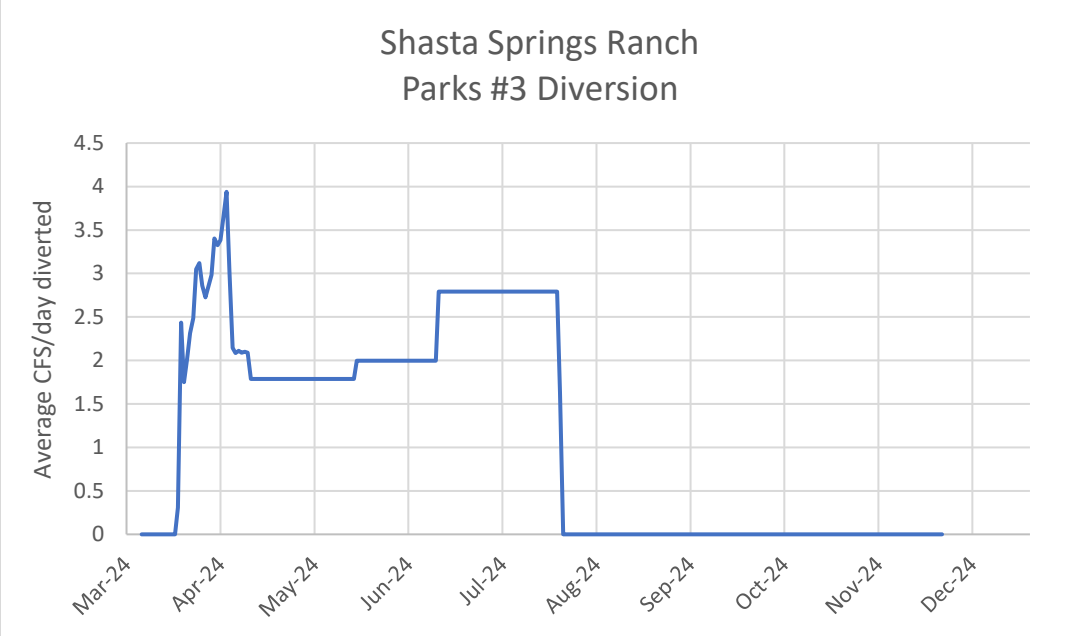

Figure 32 - EII Parks #3 Diversion (Average cfs/day)

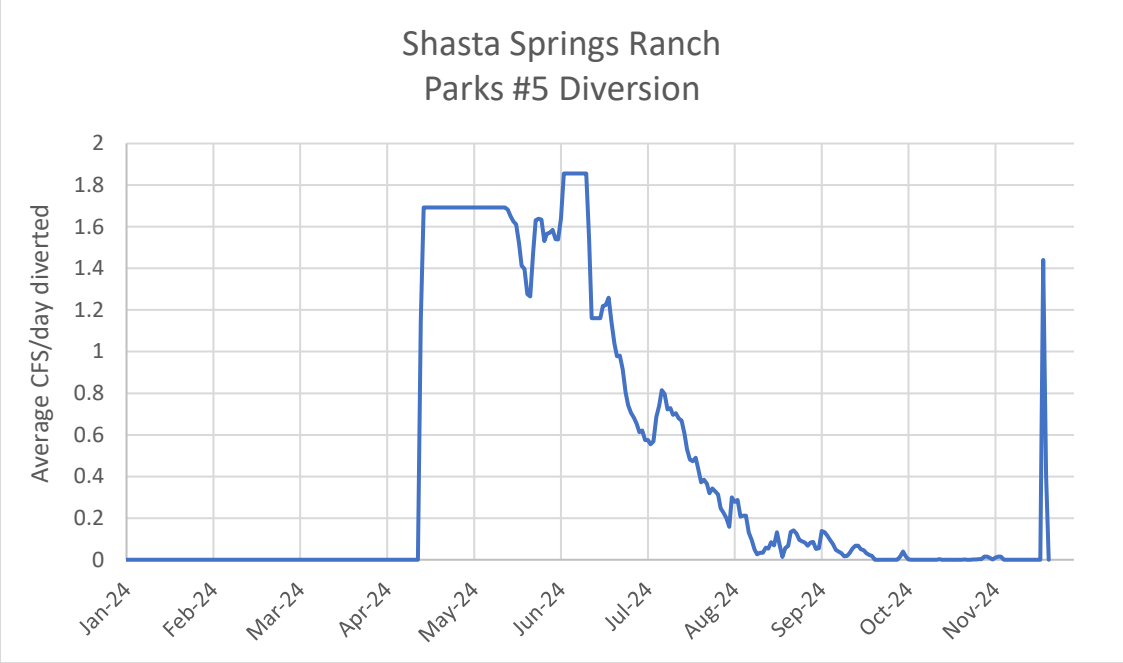

Figure 33 - EII Parks #5 Diversion (Average cfs/day)

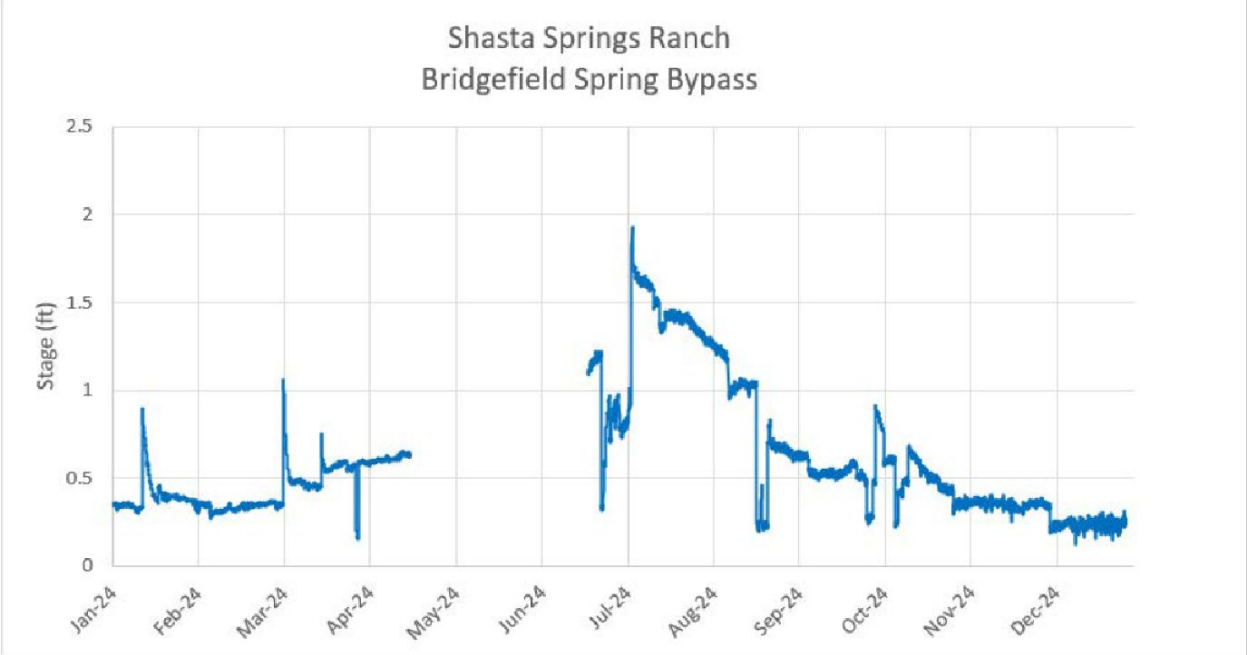

Figure 34 - EII Bridgefield Spring Bypass stage (feet)

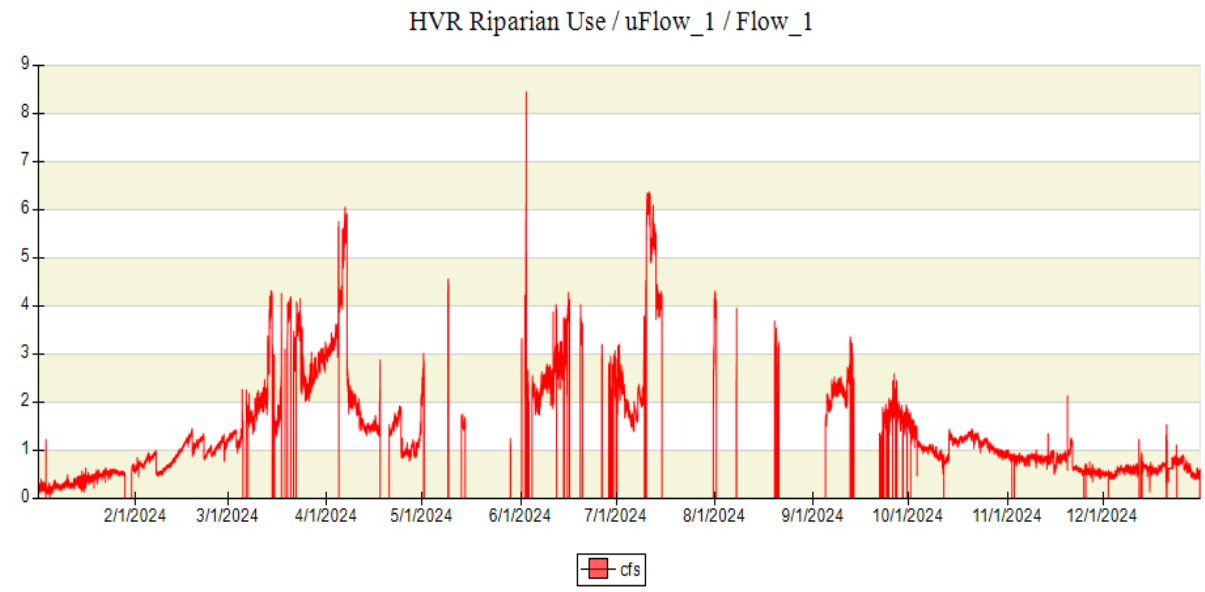

Figure 35 - Hidden Valley Riparian Use of Upper Spring (cfs), reporting a maximum diversion of 6.5 cfs in July with regular diversion throughout the irrigation season.

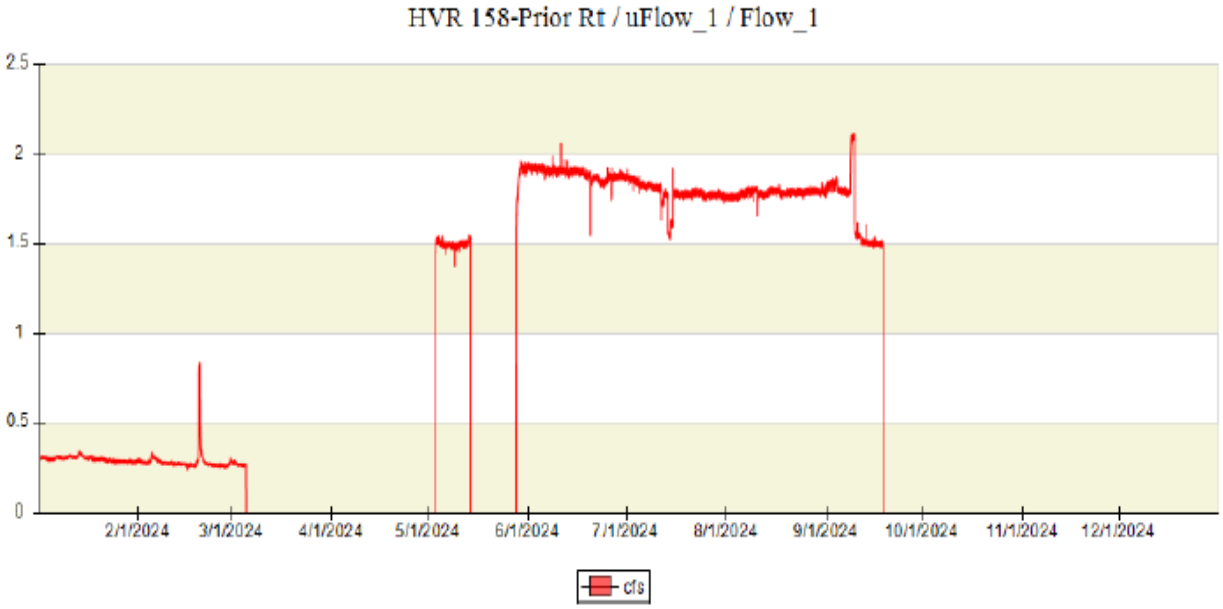

Figure 36 - HVR Prior Right Diversion (cfs) as recorded at the Place of Use- showing diversion amounts between 1.5 and 2 cfs during the irrigation season and approximately 0.25 cfs prior to March 2024.

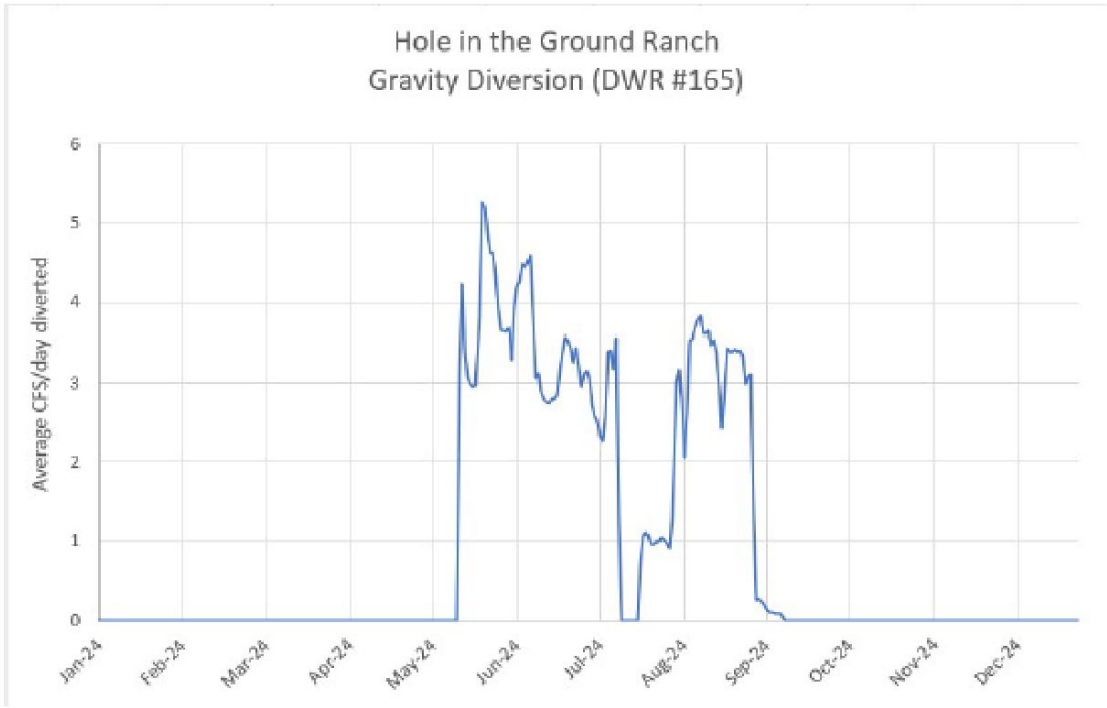

Figure 37 - *Hole in the Ground Diversion* (cfs/day) at the gravity diversion.

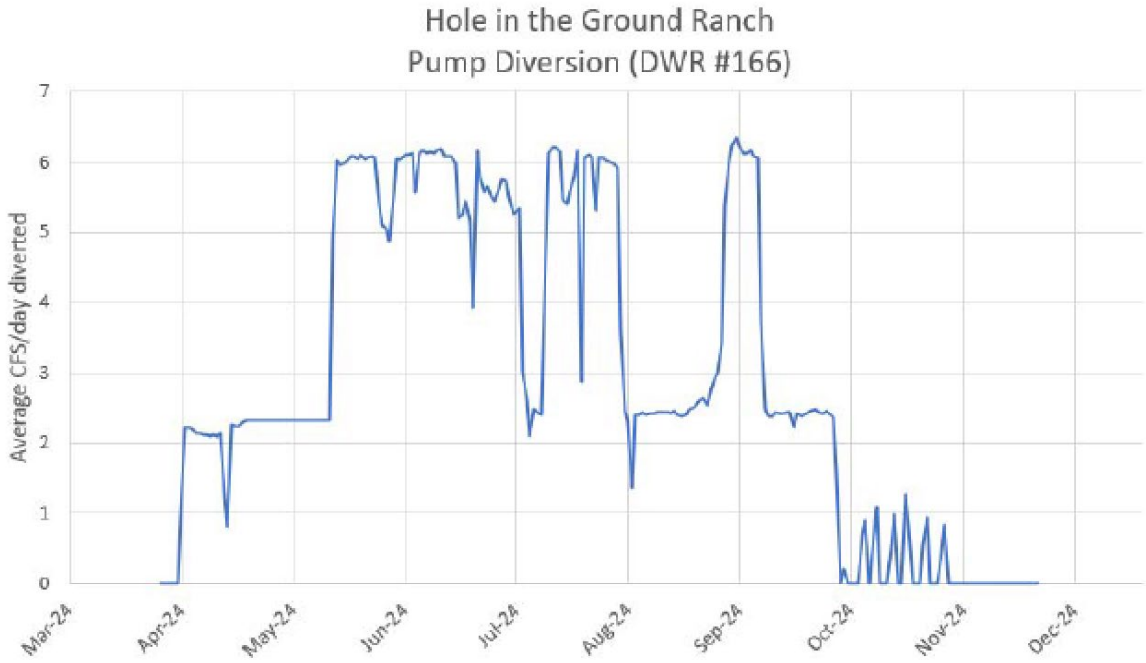

Figure 38 - Hole in the Ground Diversion (cfs/day) at the pump diversion.

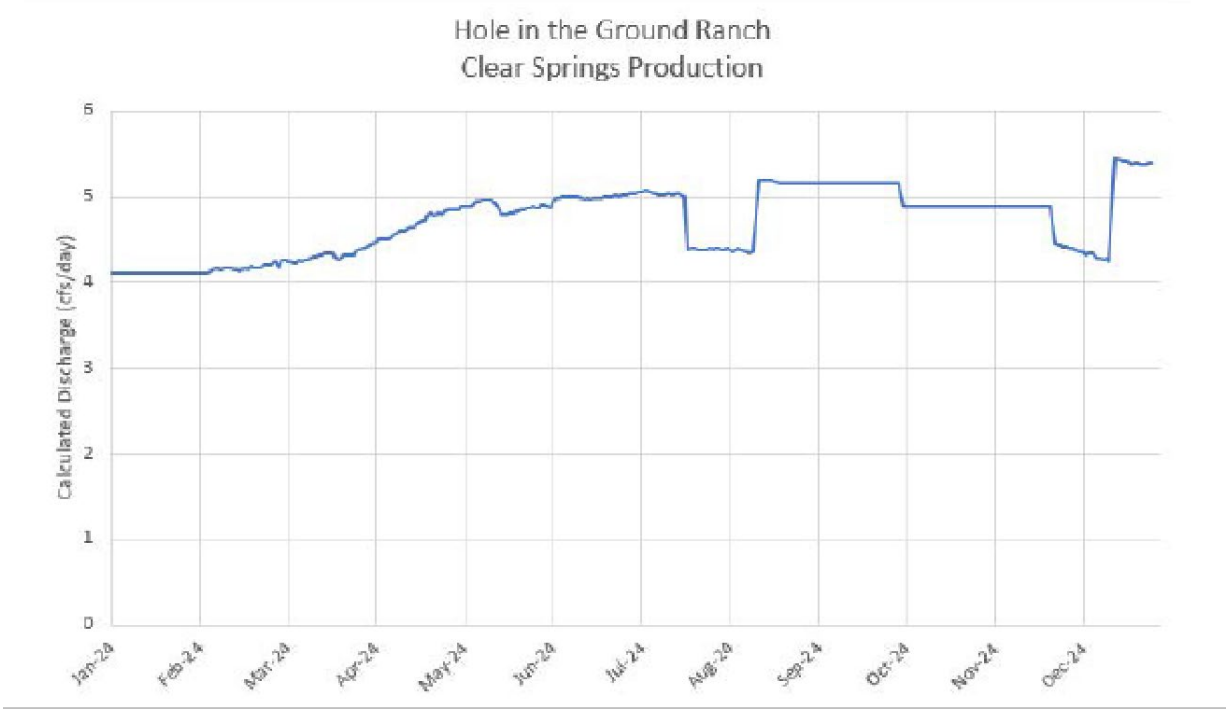

Figure 39 - Clear Springs Production (cfs)- which is diverted at the Pump diversion (DWR #166), reported above.

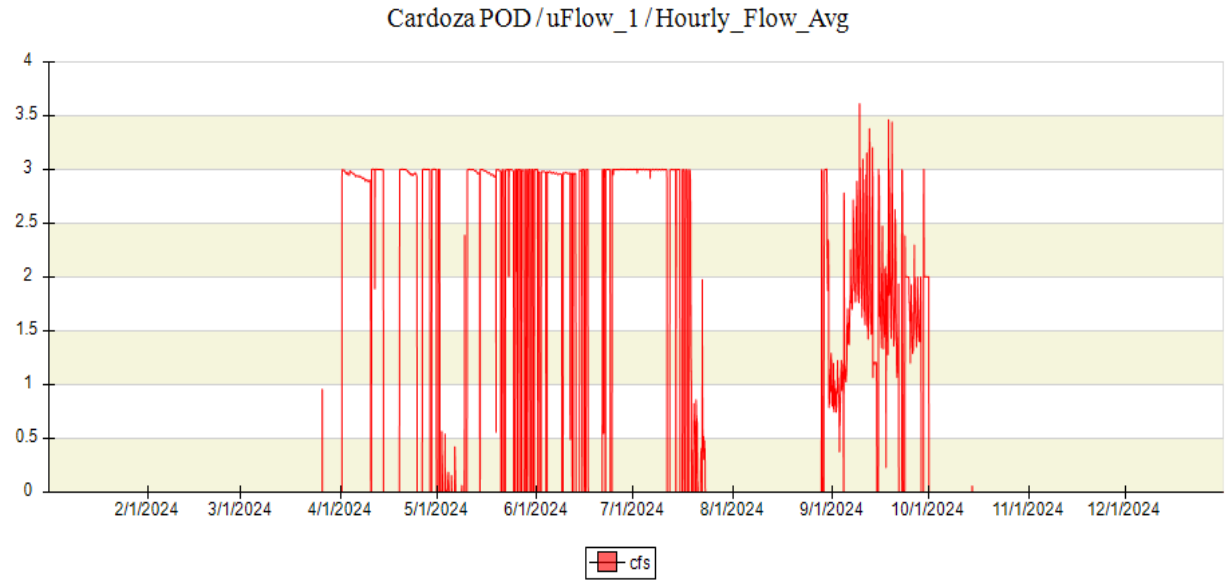

Figure 40 - Cardoza Pump Diversion (cfs)

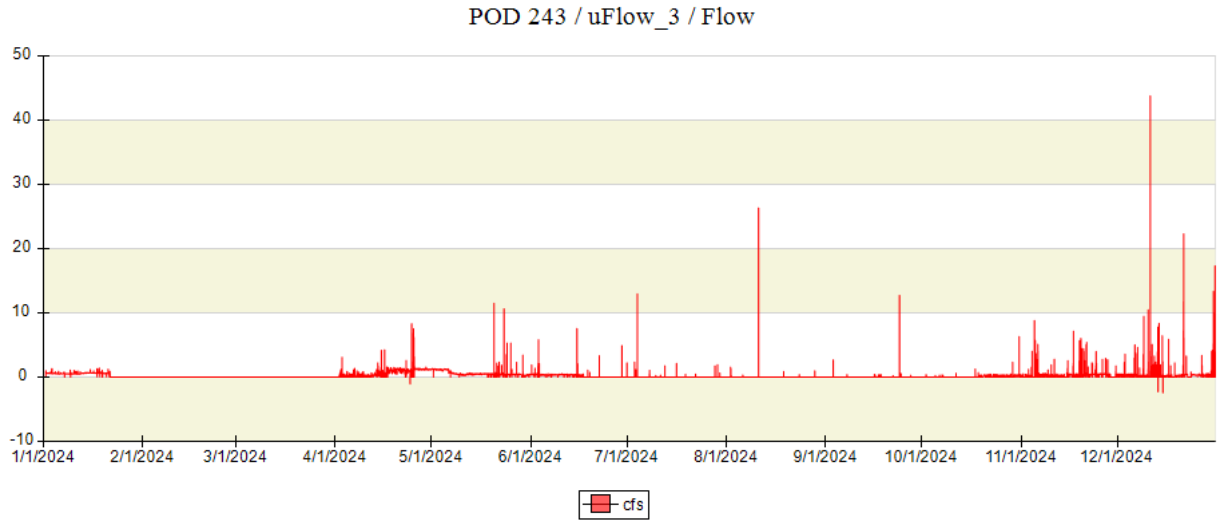

Figure 41 - POD 243 on SBSWA measuring amount diverted (cfs) and temperature of water diverted in degrees C.

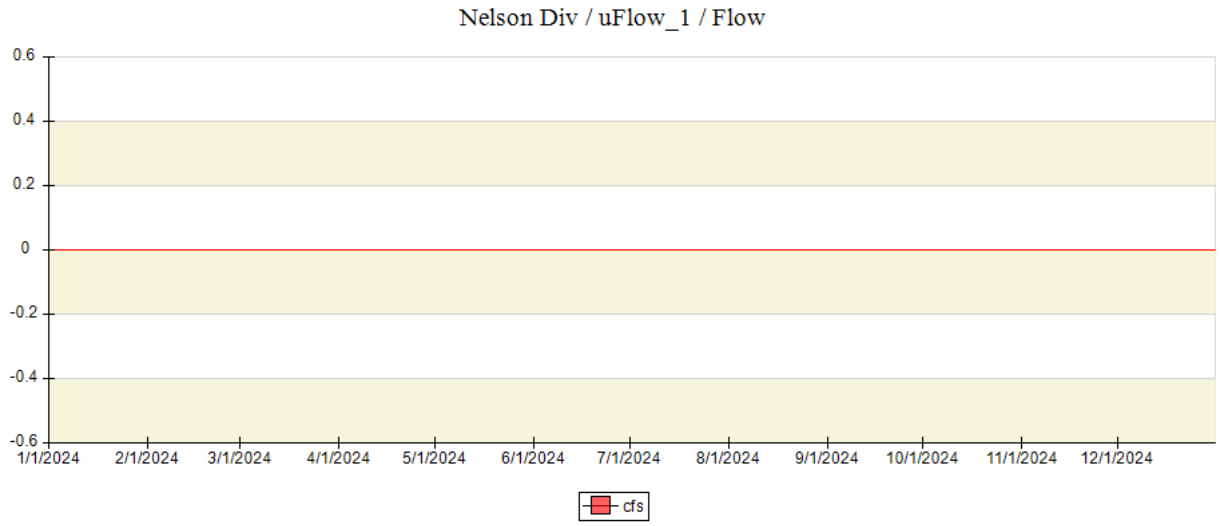

Figure 42 - Nelson diversion on SBSWA measuring amount diverted (cfs). It is unclear if the Nelson Diversion was operational in 2024 or if the flow meter was non-functional.

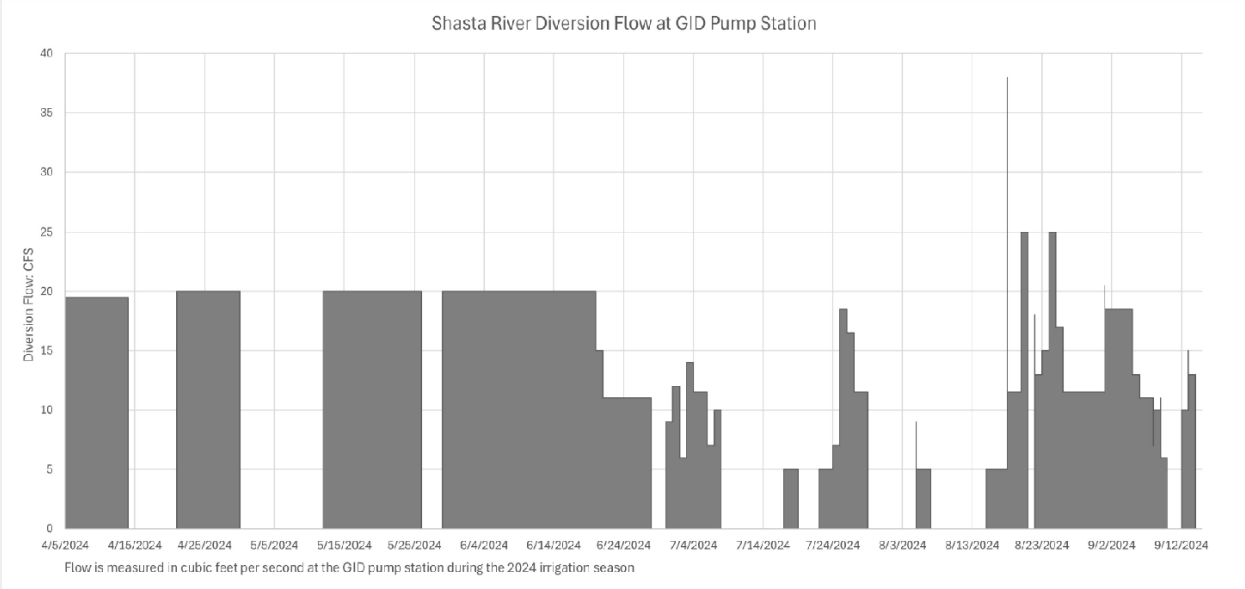

Figure 43 - GID Daily Diversion (cfs)

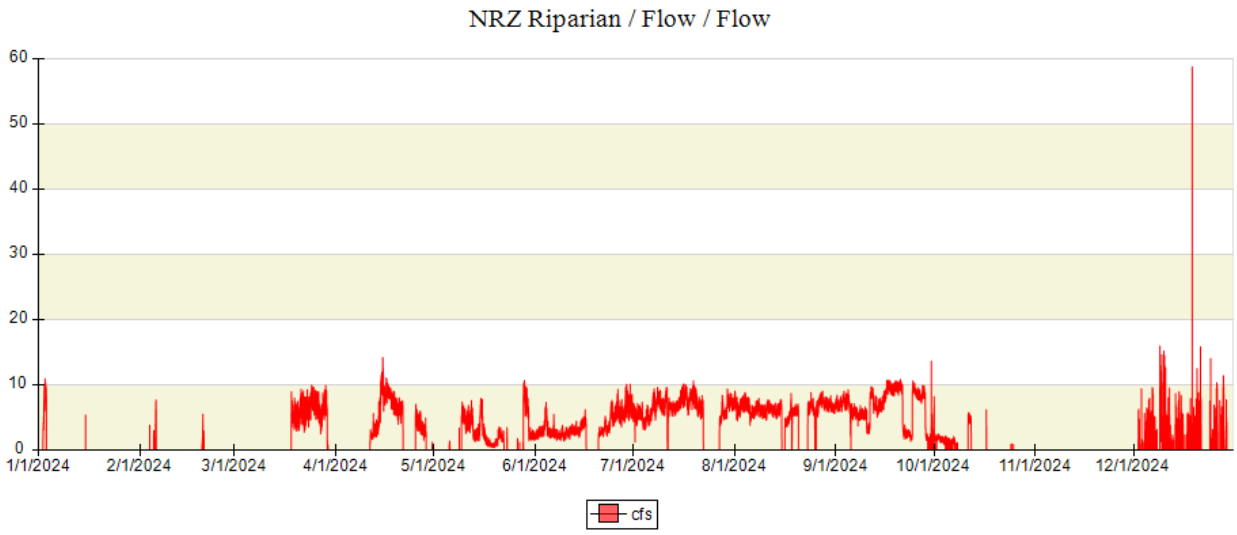

Figure 44 - Novy- Rice- Zenkus Diversion (cfs)