

Salmonid Restoration Federation Marshall Ranch Streamflow Enhancement Project

Record Number: PLN-2019-15661
Assessor's Parcel Number: 220-061-011

Recommended Planning Commission Action

1. Describe the application as a public hearing.
2. Open the Public Hearing.
2. Request that staff present the project.
3. Take public testimony and close the public hearing.
4. Take the following action:

Adopt the Resolution to 1) Adopt the Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Program, 2) make all of the required findings for approval of the Special Permit, and approve the Salmonid Restoration Federation project subject to the recommended conditions.

Executive Summary: A Special Permit to construct 10 million-gallons of off-stream water storage on the Marshall Ranch, adjacent to Redwood Creek, a tributary to the South Fork Eel River. Water storage is proposed in two (2) ponds (~3.6 million gallons and ~5.7 million gallons) and five (5) tanks (100,000 gallons each) designed to fill with rainwater (~3.5 million gallons) and water diverted from two Redwood Creek tributaries during the wet season (~6.5 million gallons). This Project seeks to improve habitat for coho salmon (*Oncorhynchus kisutch*) and steelhead (*Oncorhynchus mykiss*) in Redwood Creek, an important salmon-bearing tributary, by addressing the limiting factor of low summer streamflows. The storage facilities have been sited and designed to fill during the winter wet season and release their stored water directly to Redwood Creek during the five-month dry season providing increased flows of approximately 30 gallons per minute along the 5.5-mile mainstem of Redwood Creek downstream to South Fork Eel River. This flow augmentation will provide significant, measurable benefits in terms of dry season flow enhancement for coho salmon, steelhead, and other aquatic species. Ancillary project components include installation of one large wood habitat enhancement and bank stabilization structure in Redwood Creek to improve instream aquatic habitat along 80 feet of the Redwood Creek stream channel; stabilization of two seasonal tributaries with approximately 10 rock-armor grade control structures, regrading, and riparian planting; construction of a passive on-demand "cooling and filtration gallery" in an existing gully to provide treatment of the flow releases, as needed, to improve water quality and reduce temperature; construction of an off-grid power system including a 1 KW solar array, battery bank, inverter, internet connection, and small control center building to support operations and monitoring capabilities; upgrading access roads within the project area including three road/stream crossing upgrades, and gravel surfacing to provide year-round access; riparian exclusion fencing for cattle; installation of plumbing infrastructure including two fire hydrants to allow for a portion of the water stored in the tanks to be utilized for domestic, ranch, and fire suppression needs. These project design features are described in detail in the Basis of Design Report and 90% Design Plans included as Attachment A of the attached MND.

This project is proposed on the Marshall Ranch ownership and integrated alongside a conservation easement encompassing the entire ranch that is managed by the California Rangeland Trust. This conservation easement guarantees that the ranch will not be subdivided and will be maintained for ranching activities and wildlife conservation.

The project is consistent with the goals and policies of the Humboldt County General Plan through its effort to assist in the sufficient recovery of threatened and endangered species to support delisting; protect fish and wildlife habitats on a sustainable basis to generate long-term public, economic and environmental benefits; assist in recovery of river and stream habitat supporting the recovery and continued viability of wild, native salmonid; and maintaining and improving watershed conditions that contribute to improved water quality and supply

Need for Project

The South Fork Eel River is one of five priority watersheds selected for flow enhancement projects in California by the State Water Resources Control Board (SWRCB) and California Department of Fish and Wildlife (CDFW) as part of the California Water Action Plan effort (SWRCB 2019). Redwood Creek is a critical tributary to the South Fork Eel River (NMFS, 2014) that historically supported coho (*Oncorhynchus kisutch*) and chinook salmon (*Oncorhynchus tshawytscha*) and steelhead (*Oncorhynchus mykiss*).

An integral component of the project is the proposed diversion of water from Redwood Creek tributaries during the wet season that will be used to fill the off-stream storage ponds and tanks. The project team has applied for an Appropriative Water Right with the State Water Board Division of Water Rights (Application A033073) for a total yearly diversion of 20 acre-feet (~6.5 million gallons) with gravity diversions from two seasonal tributaries. A Draft Water Availability Analyses (WAA) was prepared by Stillwater Sciences and submitted to the State Water Board Division of Water Rights for review with the Appropriative Water Rights Application. Of the total requested diversion amount, 19.25 acre-feet (6.25 million gallons) would be dedicated to flow enhancement for the benefit of fish and wildlife and 0.75 acre-feet (250,000 gallons) would be dedicated to domestic, stock watering and fire suppression uses which would allow the landowner to forbear diversion during the dry season.

Salmonid Restoration Federation has been conducting low flow monitoring in Redwood Creek during the past nine dry seasons. Flow monitoring results paint a dire picture of dry season flows with flows in Redwood Creek mainstem typically measuring between 0 and 5 gallons per minute during the driest part of the year in late summer and early fall. Over the last several years, the dry conditions have lasted into November due to the late onset of rainfall.

Project design is based on the best available science and is informed by the California Salmonid Stream Habitat Restoration Manual (Flosi et al. 2010) and Ponds – Planning, Design, Construction (USDA 1997). Additionally, the Project is informed by scientific studies and streamflow enhancement techniques that have been used in the Mattole and Russian River watersheds.

Project History

The following table provides a summary of the Project's timeline. Following the table is a discussion of the Project's history.

Date	Action
9/2019	Initial project design submitted
11/1/2019-12/17/2019	MND circulated for 30-day comment period
9/2020	Second project iteration submitted
9/9/2020	Applicant hosted project tour on Zoom
10/9/2020	Applicant hosted meeting with neighbors
10/29/2020-11/30/2020	MND recirculated for 30-day comment period
2/25/2021	Applicant hosted community outreach meeting. Three Project alternatives discussed.
8/2021	Third project iteration submitted (current Project)
10/22/2021-11/22/2021	MND recirculated for 30-day comment period

The Project design and associated Mitigated Negative Declaration (MND) have been revised twice since the initial design. The initial design was submitted in September 2019 and the MND was circulated for public comment, from November 1, 2019 to December 17, 2019. The initial Project entailed construction of a 16-million-gallon pond designed to be filled with rainwater and a diversion from Redwood Creek during the wet winter season and deliver 50-gallons per minute of the stored water directly to Redwood Creek during the five-month dry season. The project also included cooling gallery, associated pipelines and diversion pump station (requiring Appropriative Water Rights), ancillary water storage and supply for domestic use and fire suppression, erosion control structures within intermittent streams, instream habitat enhancement structures along the Redwood Creek mainstem, and a solar

energy generation system to provide revenue to cover the long-term operations and maintenance of the Project.

A second design iteration was submitted in September 2020 and the MND was circulated for public comment, from October 29, 2020 to November 30, 2020 based on comments received from California Department of Fish and Wildlife, State Water Resources Control Board Division of Water Rights, and neighboring landowners. During the 2019 comment period concerns were raised by downslope landowners that the proposed pond and associated grading and infrastructure may not meet the desired level of long-term safety, especially during the rare case of a large rainfall event coupled with a large magnitude earthquake. Based on these concerns, additional analyses were conducted including further assessment of potential pond failure mechanisms, seismic slope stability analyses under worst-case current and proposed conditions, dam breach analysis, as well as an assessment of long-term operations, maintenance and monitoring costs. Based on these analyses, numerous significant modifications were made to the 2020 Project design to ensure long term stability of the project: 1) lowering the pond berm elevation by eight feet which resulted in a grading approach with significantly more excavation into the terrace – note that this design change reduced pond capacity from 16.3 million gallons to the current volume of 15.3 million gallons, 2) relocation of the pond spillway, 3) installation of a pond liner, French drain, and subsurface restrictive barrier, 4) grade control structures in central gully and, 5) construction of a 7.5 KW solar array, micro-hydro turbine, backup battery bank, inverter, grid intertie system and control center building to offset the Project's energy use and provide backup power during outages to maintain operations and monitoring capabilities. It was anticipated that the pond would be nearly drained at the end of each dry season for bull frog management.

Salmonid Restoration Federation (Applicant) scheduled a tour of the Project site on September 9, 2020, with the focus to provide information on the proposed Project and the associated restoration benefits, followed by a question and answer period. Due to wildfires and hazardous air quality, a Zoom presentation occurred instead.

The Applicant hosted a meeting with adjoining neighbors of the Project on October 9, 2020. The discussion focused on concerns about the Project's seismic safety and stability and additional analyses were requested. As a result from this community engagement process, the Applicant offered to have a third-party review of the design plans relating to additional seismic studies and evaluations. SHN then performed a Supplemental Geotechnical Investigation of its Geotechnical Investigation conducted in 2018. This included drilling two additional boreholes not included in the 2018 analysis. The Supplemental found the Project to be feasible from a geohazard and geotechnical standpoint. The full Supplemental is included in Appendix B of the Basis of Design Report (BOD) of Attachment A of the MND.

Faculty from UC Berkeley conducted Slope Stability Analyses and Shear Wave Velocity Analyses in October 2020 with the intent to characterize subsurface conditions where boreholes from the SHN studies did not exist. The reports concluded that development of the ponds and berms are not expected to have a significant effect on the seismic stability of the slopes. The complete report is included in Appendix B of the BOD of Attachment A of the MND.

The Applicant hosted a public outreach meeting on February 25, 202 and provided a brief overview of Redwood Creek flow conditions, status report on the Project, discussed the scientific studies that informed the Project design, summary of additional Geotechnical Investigations and the Seismic Slope Stability Analyses conducted for the Project and, discussed the three project alternatives that achieve the original target flow of 50 gallons per minute (gpm). The preferred Project alternative was then presented six months later which addressed the three primary substantive community concerns raised during the CEQA public comment period for the 2020 project design:

- 1) the risk of catastrophic pond failure has been drastically reduced by dividing storage into two ponds by reducing the original pond volume from 15.3 million gallons to 3.8 million gallons, with the second pond at 5.7 million gallons;

- 2) the current design approach allows for a separate but related flow enhancement project (i.e., future Lost Coast Forestlands (LCF) project) that benefits upstream reaches of Redwood Creek with significant aquatic habitat value; and
- 3) the current design allows for filling of the pond and cooling of the outflow via passive gravity systems and does not rely on significant long-term energy use.

The current Project design iteration was completed in August 2021 and the MND was circulated for public comment, from October 22, 2021 to November 22, 2021. The Project proposes to construct 10-million gallons of off-stream water storage in two ponds (3.8 million gallons and 5.6 million gallons) and five tanks (100,000 gallons each) designed to fill with rainwater (~3.5 million gallons) and water diverted from two Redwood Creek tributaries during the wet season (~6.5 million gallons). The storage facilities have been sited and designed to fill during the winter wet season and release their stored water directly to Redwood Creek during the five-month dry season providing increased flows of approximately 30 gallons per minute along the 5.5-mile mainstem of Redwood Creek downstream to South Eel River. The Project also includes cooling gallery, associated infrastructure, erosion control, instream habitat enhancement structures, and a small solar energy generation system to provide backup power to the Project.

MND Recirculation

Pursuant to Section 15073.5 of the State CEQA Guidelines, recirculation of an Mitigated Negative Declaration (MND) is required when the document must be substantially revised after public notice of its availability has previously been given pursuant to Section 15072, but prior to its adoption.

The initial Project design was completed in September 2019 and the MND was circulated for public comment, from November 1, 2019 to December 2, 2019 and based on request the comment period was extended for an additional 15-days, to December 17, 2019.

A second design iteration was completed in September 2020 and the MND was circulated for public comment, from October 29, 2020 to November 30, 2020, based on comments received from CDFW, SWRCB, Division of Water Rights, and neighboring landowners.

A third design iteration was completed in August 2021 (the current Project) and the MND was circulated for a public comment period, from October 22, 2021 to November 22, 2021. The project refinements that have been made are described in Project History, above.

No new impacts were identified, nor was the severity of an identified impact increased as a result of the refined project and the additional technical information. Changes proposed to mitigation measures only increase the effectiveness of the measure. No new alternatives have been identified. The supplemental technical information received has been used to make project refinements, but only re-enforces the MND impact conclusions. No impact conclusions are recommended to change from the MND.

RECOMMENDATION: Based on a review of Planning Division reference sources and comments from all involved referral agencies, Planning staff believes that the applicant has submitted evidence in support of making all of the required findings for approval of the Special Permit.

ALTERNATIVES: The Planning Commission could elect not to approve the project, or to require the applicant to submit further evidence, or modify the project. These alternatives could be implemented if your Commission is unable to make all of the required findings. Planning Division staff has stated that the required findings in support of the proposal have been made. Consequently, Planning staff does not recommend further consideration of either alternative.