Friday October 31, 2025

Wilhelmina Chon
State Water Resources Control Board
Division of Water Rights – Water Quality Certification Program
Via email to Wr401program@waterboards.ca.gov

RE: Potter Valley NOP Comments

As advocates for removal of the Eel River dams, the undersigned organizations respectfully offer the following comments in response to the Sept 22, 2025 Notice of Preparation ("NOP") issued by the State Water Resources Control Board ("SWRCB" or "Board") for your pending Environmental Impact Report ("EIR") regarding the Potter Valley Hydroelectric Project Surrender and Decommissioning ("Proposed Project"). Our suggestions with respect to the scope and content of the environmental information to be included in the Board's EIR are informed by decades of focus on the complex issues presented by Pacific Gas and Electric's Potter Valley Project ("PVP"), including the Eel River dams whose removal is the subject of the Proposed Project.

The Native Fish Society uses the best available science to advocate for the recovery of wild, native fish and promotes the stewardship of riverine habitat throughout the Pacific Northwest.

Fly Fishers International is the voice of fly fishing in America. FFI supports conservation efforts to protect fisheries and watersheds in America, and in Northern California, it engages our 28 fly fishing clubs and their more than 10,000 members to improve watersheds like the Klamath and Eel Rivers.

American Whitewater is a national non-profit river conservation organization, representing whitewater enthusiasts across the nation. American Whitewater's mission is to protect and restore America's whitewater rivers and to enhance opportunities to enjoy them safely.

The Sierra Club is the oldest and largest environmental organization in the US, with almost 4 million members nationwide advocating for wildlands preservation and equitable access to nature. The Redwood Chapter spans from Napa and Solano Counties to

the Oregon border, encompassing a diverse range of landscapes and communities with a proud history of outspoken grassroots advocacy in defense of our native ecosystems.

Friends of the Eel River is a nonprofit citizens' group that advocates for policies and practices consistent with the protection and recovery of the Wild and Scenic Eel River's outstanding resource values, particularly salmonid species protected under federal and California Endangered Species Acts.

I. Overview

We emphasize that Pacific Gas and Electric ("PG&E") is in the process of surrendering its hydroelectric license with the Federal Energy Regulatory Commission ("FERC") to operate the Potter Valley Project. The Proposed Project — to remove the PVP's Scott and Cape Horn Dams on the upper mainstem Eel River — is PG&E's proposal to FERC to decommission PVP facilities as part of that license surrender process. PG&E is surrendering its license and decommissioning the Eel River dams for its own reasons, which it has repeatedly stated are economic. At this stage in the license surrender process, neither PG&E nor any other entity can obtain a new FERC license to operate the PVP and its dams.

As we detail below, to the extent the PVP still functions, there are reasons for concern it may be subject to sudden failure, entailing very serious water quality impacts. However, while the PVP does continue to operate, significant and potentially disastrous temperature impacts on Eel River steelhead are likely to continue, at a minimum until FERC completes its approval of a proposed amendment to the PVP annual license.[1]

Because our support for dam removal springs from our goals of fisheries and river restoration, we particularly appreciate the Board's role in protecting water quality under its certification authority pursuant to Section 401 of the Clean Water Act. The Section 401 process is California's strongest tool to ensure PG&E's dam removal project improves water quality, restores habitat, and protects downstream communities and Tribal resources in the Eel River watershed.

As PG&E has documented in its *Final Application for Surrender of License and Application for Non-Project Use of Project Lands* ("License Surrender Application"), the Proposed Project will result in a number of unavoidable adverse effects, including discharges into the Eel River which clearly trigger the present review. PG&E writes that "Rapid Dam Removal would result in the flushing of a large volume of sediment (approximately 12 million cubic yards …) downstream of the remnant reservoir into the Eel River."[2] Because of the scope and nature of the Proposed Project, the SWRCB's

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[1] See PG&E, *Potter Valley Hydroelectric Project (FERC Project No. 77-318) Application for Non-Capacity License Amendment and Response to Additional Information Request*, Jan. 30, 2025; FERC's approval does not appear likely prior to Summer 2026; see FERC, *Notice of Reasonable Period of Time for Water Quality Certification Application*, April 10, 2025), stating "Reasonable Period of Time to Act on the Certification Request: One year, February 20, 2026. If California State Water Resources Control Board fails or refuses to act on the water quality certification request on or before the above date, then the certifying authority is deemed waived pursuant to section 401(a)(1) of the Clean Water Act, 33 U.S.C. § 1341(a)(1)."

[2] PG&E, *Potter Valley Hydroelectric Project (FERC Project No. 77) Final Application for Surrender of License and Application for Non-Project Use of Project Lands,* July 2025. Vol IA p 5-7

conditions of certification will provide essential sideboards to minimize water quality and other harms and secure the benefits of dam removal.

A. The Affected Area Includes the Entire Mainstem Eel River, Estuary, and Nearshore Marine Area

The affected area of the Proposed Project in the Eel River extends far beyond Project footprint. It ranges from the streams feeding the Lake Pillsbury reservoir, downstream the entire length of the mainstem Eel River, through the Eel River estuary, and into adjacent nearshore marine habitat. This point is not explicit in the NOP, but it is critically important to the SWRCB's planned California Environmental Quality Act ("CEQA") analysis. The broad extent of the affected area in the Eel River is due to the high volume of impounded sediment that will be released when dams are removed, which will affect all the described habitat in the Eel River watershed, including the estuary and nearshore ocean areas.

In addition, beneficial impacts of the dam removal will extend to the entire affected area. The existing streams feeding into the Lake Pillsbury reservoir will connect with the stream channels that have been buried for over 100 years under the lake, and the health of this entire stream network in the Upper Eel River will improve. The natural rate of sediment delivery will be restored throughout the basin, replenishing areas that have been starved of sediment for over 100 years. Similarly, the hydrologic function of the Eel River will no longer be impaired, and the natural hydrograph will be allowed to run through the entire mainstem Eel River, rather than impounded and released at times to best suit our society. For these reasons, the affected area analyzed in the EIR should include the entire mainstem Eel River, starting with the headwaters feeding into the Lake Pillsbury reservoir, the estuary, and the adjacent nearshore marine area.

B. Current Conditions are the Appropriate Environmental Baseline

Establishing the appropriate environmental baseline is critically important to an accurate analysis of the effects of the Proposed Project. The Project has been in place for over 100 years, and over that time dam infrastructure has aged, two reservoirs have partly filled with sediment, and different managed flow regimes have been implemented. It is not feasible to return to a prior flow regime such as that in place before Eel River salmonids were listed under the Endangered Species Act, before NMFS's Biological Opinion changed flows in the Eel and Russian Rivers, or before PG&E decided to limit the capacity of Lake Pillsbury to protect the dam.

The ESA, as well as state laws, remain in place, and the current flow management and dam storage reflect resource agency's analysis of the best available scientific information and PG&E's assessment of risk, respectively. Further, the Project infrastructure has aged and degraded, and it cannot be restored to previous conditions without being entirely removed and rebuilt. Finally, the volume of water that can be stored in the Lake Pillsbury reservoir has been irrevocably reduced due to sediment accumulation in the reservoir and the seismic instability which led PG&E to stop closing the radial gates. For these reasons, SWRCB should use current conditions as their environmental baseline for CEQA analysis.

C. The SWRCB's Restoration Policy is Appropriately Applied Here

We strongly support the SWRCB's stated intention to apply your Restoration Policy to this review. As we understand it, the SWRCB's policy recognizes that the long term benefits from aquatic ecosystem restoration can outweigh even very serious short term adverse effects of restoration actions. Here, on the upper Eel River, significant long term water quality benefits can only be feasibly secured by removal of Scott and Cape Horn Dams, through a process that will inevitably include temporary but quite significant water quality impacts. Because dam removal is key to watershed restoration, we urge the Board to frame the water quality certification for the PVP as a watershed restoration tool, not merely a construction permit. The Section 401 process should ensure the Eel River dam removals deliver on the promise of cleaner water, thriving salmon, steelhead, and lamprey populations, restored Tribal fisheries, and a resilient watershed for future generations.

D. This Certification, Like the Proposed Project, is Urgently Needed

We also wish to underscore the urgency completion of the SWRCB's certification of the Proposed Project. Eel River communities have borne the impacts of the dams for a century. The infrastructure of the PVP is in a more precarious condition than many appreciate. A big storm, a landslide, or an earthquake could curtail operations with no recourse. Climate change is pushing the PVP out of even minimal viability as a water supply system.

There does not appear to be any feasible means of securing the long term benefits of dam removal without short term impacts. Nor can dam removal be indefinitely postponed. Scott and Cape Horn Dams and their supporting infrastructure are vulnerable to irreparable damage from natural processes. Moving forward with dam removal, allowing for a far more resilient and sustainable potential diversion, is the most practical way to protect both Eel River fisheries and Russian River water users in the decades ahead.

E. Eel River Fisheries Need Immediate Relief

Finally, and from our perspective, above all, the fisheries of the upper Eel River face dire threats to their continued existence as long as the Eel River dams remain. The sooner this EIR is completed and conditions set, the better for progress toward dam removal , more certain water supplies for current PG&E customers, and a free-flowing river with its natural processes restored.

Chinook and steelhead returns on the Eel River have marked heartening upward trends over the last decade. However, it is important to note that those improvements come from disastrously low levels. For Chinook in particular, recent years of closure of ocean fishing for salmon has helped increase returns to the Eel River.

Fish populations which remain at chronically low numbers, e.g. which fail to recover, can be subject to various destructive effects specific to smaller populations, including depensation, and are less resilient to stochastic impacts. Today, we must reckon the increasing temperatures and more variable hydrologic regime associated with climate change. As well, Eel River fisheries are subject to actions by a host of governmental bodies, few of which manifest consistent power or will to assist salmon recovery.

With respect to the PVP itself, NMFS notified FERC and PG&E in March of 2022 that "NMFS' 2002 Opinion on the amendment to the Project license identified RPAs and provided incidental take authorization for implementing the proposed action for a 20-year period, which elapses on April 14, 2022."[3] Thus, the PVP does not presently have incidental take coverage as required by the federal Endangered Species Act. Further, NMFS wrote that "(b)ased on information currently available, we conclude that the Project is causing take of ESA-listed salmonids in a manner not anticipated in the Opinion and from activities not described in the Opinion."[4] These violations of the ESA include water quality issues relevant to the Board's certification process here.

Among the specific issues NMFS detailed in that letter is the impact of PVP operations on juvenile steelhead:

> *"… juvenile steelhead trout have continued to experience reduced production below Scott Dam despite implementation of the RPA. Reduced overall steelhead trout production below Scott Dam is primarily due to unfavorable summer habitat conditions caused by elevated temperature of water released from Lake Pillsbury in some years, further exacerbating inter-specific competition between juvenile steelhead trout and Sacramento pikeminnow (*Ptychocheilus grandis*) and increasing predation risk by invasive fish species (i.e., Sacramento pikeminnow and black bass species (*Micropterus *spp.)). Therefore, we have concluded that the RPA summer flow component is not providing the anticipated benefits to ESA-listed salmonids. Changes in flows are also necessary to promote suitable water temperatures for juvenile salmonids during the dry season in order to improve their ability to survive, grow, and outcompete warmer-water invasive fish species."*[5]

NMFS further emphasizes that it never authorized any of the take (harms) ongoing at Cape Horn Dam and its fish ladder:

> *"Cape Horn Dam, the associated infrastructure, fishway maintenance, and flow operations to achieve fish passage at the passage facility are neither described within the Description of the Proposed Action, nor are their effects to listed species assessed within the Opinion. Consequently, we did not authorize incidental take resulting from these effects (e.g., delayed or blocked migration and predation of ESA-listed salmonids caused by the configuration and full operation of the Cape Horn Dam fish passage facility)."*[6]

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[3] NMFS letter to FERC, *Endangered Species Act and Magnuson-Stevens Fishery Conservation and Management Act Consultations on the Potter Valley Project (P-77) on the Eel River, California*. March 22, 2022. p 1.

[4] Ibid.

[5] Ibid. pp 2-3.

[6] Ibid. p 3.

In summary, Eel River Chinook and steelhead are put at increasing risk by the continued operations of the Eel River dams. To attain recovery targets set by NMFS, Eel River Chinook and steelhead will have to overcome a host of continuing threats and rebuild regional populations. But the removal of Scott and Cape Horn Dams is arguably the biggest step we can take today toward recovery in the Eel River watershed. The Proposed Project will both reduce or eliminate chronic harms to Eel River Chinook and steelhead and provide enormous benefits by restoring access to a large area of habitat.

F. The Klamath Dam Removal Process Is A Useful Guide

Thus, in addition to the comments offered below, we also urge the SWRCB to inform this review with the recent lessons of the Klamath dam removal project. The SWRCB's April 2020 certification for Klamath dam removals offers many instructive parallels, as well as some important differences, to the situation we find on the upper mainstem Eel River. Overall, the SWRCB's 401 certification clearly helped guide Klamath dam removal to successful outcomes. Recent reports indicate that water temperatures have dramatically improved for salmon at the former Klamath dam sites, while dissolved oxygen levels have stabilized.[7] Most importantly, salmon are returning farther upstream above the former dams and in greater numbers than projected. As one representative report quoted the Yurok Tribal Fisheries Director, "(t)he speed and scale of the river's recovery has exceeded our expectations and even the most optimistic scientific modeling, proving that when the barriers fall, nature has an incredible power to heal itself," said Barry McCovey Jr. … "Biologists were expecting it to take several years for sediment to clear out of the system, but the river has rebounded much faster than expected."[8] We are confident the Board's experience with the Klamath process has left Water Quality Certification staff better placed to evaluate the removal of the Eel River dams. The greatest lesson may be not to underestimate the potential for rapid recovery.

G. We support analyzing impacts of a new diversion works separately

We understand that the Proposed Project for the purposes of this review does not include the New Eel Russian Facility (NERF), the proposed new diversion works that will allow future wet-season diversions from the upper Eel River to continue through the existing tunnel and penstock configuration to the East Branch Russian River at the head of

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[7] Oregon Public Broadcasting (OPB) *Klamath River temperatures changed dramatically after dam removal. That's helping salmon swim farther upstream.* Oct 28, 2025 See https://www.opb.org/article/2025/10/28/klamath-river-temperatures-dam-removal-salmon-upstream/?utm_campaign=Klamath%2BNews&utm_medium=email&utm_source=Klamath_News_48

[8] Eli Fournier, Salmon Are Recolonizing Klamath River After Dam Removals, Meateater, Oct. 21, 2025 https://www.themeateater.com/conservation/wildlife-management/salmon-are-recolonizing-klamath-river-after-dam-removals?utm_campaign=Klamath%2BNews&utm_medium=email&utm_source=Klamath_News_48

The rapid return of Klamath salmon has attracted wide attention. See also Rebecca Dzombak, *A River Restoration in Oregon Gets Fast Results: The Salmon Swam Right Back.* New York Times, Oct. 29 2025. **See** https://www.nytimes.com/2025/10/29/climate/klamath-salmon-recovery.html?utm_campaign=Klamath%2BNews&utm_medium=email&utm_source=Klamath_News_48

Potter Valley. As much as many of us would in fact have preferred to end the interbasin transfer to the Russian River, we support continuing it through the NERF as long as dam removal is completed quickly and effectively. We support analyzing the potential impacts of the diversion separately.

II. General Comments on Potentially Affected Environmental Factors

A. Aesthetics

The project area is currently marred by the presence of century-old concrete structures in visible decay. From our perspective, their removal will improve the view in several river reaches. Similarly, the project area is now dominated by a reservoir ringed by mudflats. Dam deconstruction work will very likely create some temporary ugliness. Over the long term, however, the Project will improve the aesthetics of the area.

B. Air Quality

The air quality of the Project Area is generally quite good absent wildfires etc. Dam removal operations will entail local air pollution given the scale of the structures to be removed and material to be removed. Vehicle traffic alone will cause some level of air quality impairment. The SWRCB's conditions should include appropriate mitigation and minimization measures.

C. Biological Resources

In general, dam removal will benefit the biological resources of the project area in the long term pretty substantially. Because the PVP dams and reservoirs already exist, the impacts to local biological resources of the Proposed Project are likely to be primarily limited to the direct footprint of the dam removal operations. We expect the detrimental impacts of the Proposed Project on local biological resources to be short-term and that these effects will be minimized to the maximum extent practicable, because the Proposed Project will be carried out consistent with direction from state and federal resource agencies. Dewatering of portions of the river (and relocation of fish present, including salmonids) will be necessary to enable in-channel work to remove dam infrastructure. Removal of both dams, including dewatering and fish relocation, will occur over one summer, if possible, to limit the effect of these short-term impacts to a single cohort of salmonids.

The unavoidable, short-term impacts to biological resources from the Proposed Project are far outweighed by the benefits of dam removal for all terrestrial and aquatic species. The benefits of dam removal for fisheries are the best documented, and most argued, aspect of the Proposed Project. Scott Dam keeps Southern Oregon/Northern California Coast (SONCC) Coho Salmon from accessing 80% of their historic habitat in the upper Eel River.[9] The habitat above Scott Dam has been recently assessed and enumerated by NMFS

[9] NMFS. *Final Recovery Plan for the Southern Oregon/Northern California Coast Evolutionarily Significant Unit of Coho Salmon (*Oncorhynchus kisutch*).* 2014. https://repository.library.noaa.gov/view/noaa/15985

and other scientists, and large amounts of habitat suitable for salmonids have been documented there.[10]

Recovery of salmonid habitat is a predictor of benefits to suites of other aquatic and terrestrial species, from aquatic invertebrates whose entire aquatic habitat overlaps with salmon, to every animal that eats a spawned-out salmon. By reconnecting habitats now divided by the dams and their reservoirs, the Project will reconnect populations of the very wide range of species that use river and riparian habitat, whose habitat is currently degraded or completely eliminated by the Project. Fisheries recovery supports ecological recovery, renewing the transport of marine nutrients essential to our inland forests.

Please ensure that the short-term, detrimental effects of dam removal are evaluated for the entire area of impact of the Proposed Project from the tributaries to the mainstem Eel River currently draining to the Lake Pillsbury reservoir, to the entire mainstem Eel River, the estuary, and adjacent nearshore ocean habitat.

D. Cultural Resources

Cultural resources may be present in the Project area. For example, the village of Hullville once stood in what is now the footprint of the Lake Pillsbury Reservoir. Protocols for how construction activities will change if cultural resources are uncovered should be in place, to avoid unintentionally harming those resources. If cultural resources currently exist under the lake, draining Lake Pillsbury as part of the Proposed Project will allow for their identification and protection.

E. Geology and Soils

1. Seismicity

Research by the USGS over the last twenty year has detailed the traces of a major fault beneath the Lake Pillsbury Reservoir and Scott Dam. The Bartlett Springs Fault, the easternmost extension of the Hayward Fault complex, has been estimated to be capable of producing tremors of up to magnitude 7.2.[11]

[10] Fitzgerald, A.M., D.A. Boughton, J. Fuller, S.N. John, B.T. Martin, L.R. Harrison, and N.J. Mantua. 2022. *Physical and biological constraints on the capacity for life-history expression of anadromous salmonids: an Eel River, California, case study*. Can. J. Fish. Aquat. Sci. 79: 1023–1041.

[11] See V.E. Langenheim, R.J. McLaughlin, and B.L. Melosh, *Integrated geologic and geophysical modeling across the Bartlett Springs fault zone, northern California (USA): Implications for fault creep and regional structure Geosphere* (2024) 20 (1): 129–151. https://doi.org/10.1130/GES02684.1, contrasting different estimates of maximum earthquake magnitude produced by two models of the Bartlett Springs Fault: "… the Murray et al. (2014) model yielding a maximum earthquake magnitude and horizontal slip of M 6.5–6.7 and ~1.6 m, respectively, as contrasted with the Lienkaemper et al. (2014) model predicting a maximum earthquake magnitude of M 7–7.2 and horizontal slip of 5.6–5.8 m."

A preliminary assessment of the potential vulnerability of Scott Dam to seismic shock moved PG&E to immediately lower the radial gates on the reservoir.[12] California's Division of Safety of Dams subsequently ordered that the gates not be raised again without regulators' approval.[13] The seismic assessment itself has been filed confidentially under FERC's CEII rules, but the SWRCB could access that information as necessary.

What seem most relevant to the SWRCB's analysis are two facts. First, with the gates permanently down, PG&E is operating a project with approximately 20,000 AF less storage. This sharply restricts operational options, impairs project management, and increases the risk that project operations will result in water temperatures that are dangerously high for ESA-listed salmonids in late summer. The second fact is that even a relatively small tremor could easily shift sediment behind Scott Dam such that the needle valve becomes inoperable and irreparable. In a larger quake, the sediment accumulated against Scott Dam's inner face increases the risk to the dam structure. Alternatively, a tremor could release the landslide perched above Scott Dam's south abutment. While there is no way to predict when an earthquake will occur on the Bartlett Springs Fault, the fact that an earthquake will occur at some point, combined with the evident concern on the part of the dam owner and state and federal regulators regarding the safe operation of Scott Dam underscores the urgency of dam removal.

F. Greenhouse Gases

Implementation of the proposed dam removal project will entail greenhouse gas emissions associated with the industrial equipment, trucks, and other transport used in the course of the Project. Thus, an as yet unknown quantity of carbon (and other greenhouse gasses) will be emitted into the atmosphere in the course of the project.

Reservoirs are generally known to generate methane, a potent greenhouse gas, due to the breakdown of organic material in anaerobic conditions often created by reservoirs. While we are not aware of any studies of the Lake Pillsbury reservoir's greenhouse gas generation, it is unlikely to have been zero. The SWRCB should attempt to establish a reliable estimate of the PVP's greenhouse gas emissions as part of this EIR.[14]

G. Hydrology and Water Quality

PG&E has clearly outlined in its August 2025 License Surrender Application the reality that flushing the sediments following dam removal will result in lethal conditions for

[12] PG&E, *Potter Valley Hydroelectric Project, FERC No. 77-Cam Scott Dam, NATDAM No. CA00398, Results of Simplified Seismic Stability Analysis and Proposed Interim Risk-Reduction Measure* March 17, 2023.

[13] Sharon K. Tapia, Division of Safety of Dams, April 12, 2023 letter to PG&E Vice President Jan Nimick, attention Mr. David Ritzman, Chief Dam Safety Engineer.

[14] Note that the US Department of Energy's website, at this writing, still states that "recent data has shown that current methods used to quantify the carbon footprint of hydropower facilities may be insufficient." See https://www.energy.gov/eere/water/tracking-carbon-footprint-hydropower

aquatic life through much of the mainstem Eel River. As the document summarizes, these can be expected to include:

> *Short-term unavoidable adverse effect on suspended sediment and turbidity in the Eel River from removal of the dams for a period of several days up to several months for which no mitigation is possible …*
>
> *– This effect is likely to extend along the entire length of the Eel River, including the estuary and the nearshore ocean environment.*
>
> *– This action would also have a smaller long-term effect of increased turbidity during high-flow events as the remainder of the sediments are remobilized and carried out to the ocean potentially for 1 to 3 years.*
>
> *Short-term unavoidable adverse effect on dissolved oxygen in the Eel River from Scott Dam removal for a period of several days and as far as 40–50+ mi. downstream from Scott Dam for which no mitigation is possible.*[15]

In virtually any other circumstance, we would oppose any action that might cause such a result. But as PG&E has shown, the only real alternative to flushing all the sediment at once would be to flush it in two or three separate tranches – each of which would be just as deadly as doing it all at once. The sediments will inevitably come downstream. Careful and judicious management should result in most of it coming down in as brief a period as possible. Again, this seems a straightforward instance of short term impairment which should only ever be justified by resulting long term benefits, as the SWRCB's Restoration Policy provides.

The rapid return of relatively robust numbers of Klamath salmon provides important evidence that despite the similarly high-impact release of sediment that accompanied those dam removals, salmonids can to a significant extent be shielded from those impacts (i.e. by timing of the pulse such that few fish are actually in the river, or by the fish finding refuge in less affected tributaries).

1. Flows

Because PVP flows have varied substantially from scheduled flows over the last two decades, it would not be appropriate to evaluate the Proposed Project on the basis of scheduled flows. Storage limitations now make it impossible for PG&E to meet the PVP's flow schedule under most circumstances. As PG&E summarizes the situation, "current license-prescribed flows will be unobtainable in nearly all years."[16] Rather, the Board's analysis should take as the baseline the flow schedule set forth by PG&E in its proposed annual license amendment, which reflects contemporary constraints on PVP operations.

[15] PG&E, License Surrender Application, Vol II p 6-2.

[16] Ibid.

2. Temperature

As long as the PVP dams remain in place, temperature is, and will remain, the central water quality issue for the Eel River in the upper Eel River. High water temperatures reduce the survival and growth of juvenile steelhead. But in the inter-dam reach of the Eel River, high water temperatures are especially dangerous for juvenile steelhead because Sacramento pikeminnow introduced to the Eel River via the Project facilities "outcompete juvenile steelhead at temperatures [between] 20-23°C."[17] Thus, it is necessary to "manage withdrawals from the reservoir to minimize the duration juvenile steelhead trout are exposed to pikeminnow at temperatures above 18°C. in late summer."[18] However, as PG&E wrote in its 2025 flow variance request:

> *The conclusion of the PG&E water temperature analysis was that there are limited options for mitigating high water temperature in the release from Lake Pillsbury in the late-summer and early-fall months. The limited options are caused by the relatively shallow reservoir (small, deep-water volume), minimal spring/summer reservoir inflow that is typically warm, and summer withdrawals that are made from a low-level outlet that mixes the warm, upper layers of the reservoir throughout the water column.*[19]

Indeed, the conclusion of the PG&E water temperature analysis was that "managing releases was the only tool available to moderate water temperature releases from the reservoir."[20] Those releases are also a key driver of water temperature increases downstream of the dam because high diversion volumes speed the mixing of cold and warm water in the reservoir, as PG&E explained in 2022:

> *The small storage volume present in the deeper portions of the reservoir means that there is a limited supply of cooler water that is continuously being mixed with warmer surface water via discharges from the low-level outlet. This results in gradually warming discharges (as measured at gage E-2), especially during periods of high-volume releases.*[21]

While PG&E has developed flow schedules and procedures to reduce the risk to steelhead, FERC has repeatedly failed to timely approve implementation of those

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[17] PG&E, *Potter Valley Hydroelectric Project, FERC No. 77-CA 2024 Minimum Instream Flow Variance Request Due to Restricted Storage Capacity* (FERC Docket No. P-77) (February 21, 2024), p. 10.

[18] Ibid.

[19] PG&E, Potter Valley Hydroelectric Project, FERC No. 77-CA 2025 Minimum Instream Temporary Flow Amendment Request (FERC Docket No. P-77) (February 14, 2025), p 3.

[20] PG&E, Potter Valley Hydroelectric Project, FERC No. 77-CA 2023 Flow Variance Request Due to Limited Storage Capacity (May 22, 2023), p 7.

[21] Ibid.

measures.[22] Opposition to variance requests, e.g. from the City of Ukiah,[23] appears to be contributing to delays in FERC review, to the detriment of Eel River fisheries.[24] PG&E's 2025 flow variance request was again not approved until it was too late to prevent high temperatures. Releases from Scott Dam measured at or above 20°C for more than 80 days, from early July to late September, topping out above 22°C twice.[25]

In its March 25, 2025, letter of support for the proposed 2025 temporary flow variance, the California Department of Fish and Wildlife emphasized the urgency of the matter, writing:

> *The delayed implementation of the 2023 variance contributed to a 2.5°C warmer maximum release temperature than in 2022, despite 2023 being a much wetter year, indicating early season management of Lake Pillsbury's cold-water storage is critical to meeting salmonid temperature requirements in the Eel River later in the season. Water temperatures in August and September of 2023 were very close to the lethal threshold for rearing steelhead trout of 23°C, with an observed peak of 22.6°C. A rapid approval of the 2025 Temporary Amendment is necessary to avoid water temperatures approaching, meeting, or exceeding this lethal threshold again.*[26]

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[22] See e.g. Friends of the Eel River, Pac. Coast Fed'n of Fishermen's Ass'ns, Inst. of Fisheries Res., Trout Unlimited, Cal. Trout, Motion to Intervene and Request and Petition for Rehearing, Reconsideration, and/or Discretionary Action (May 20, 2022); Friends of the Eel River, Pac. Coast Fed'n of Fishermen's Ass'ns, Inst. of Fisheries Res., Trout Unlimited, Cal. Trout, *Motion to Intervene and Comments by Friends of the Eel River, Trout Unlimited, California Trout, Pacific Coast Federation of Fishermen's Associations, and Institute for Fisheries Resources Regarding Pacific Gas and Electric Company's Application for Temporary Variance of Flow Requirements*, FERC Project No. 77-313 (July 28, 2023); Friends of the Eel River, Pac. Coast Fed'n of Fishermen's Ass'ns, Inst. of Fisheries Res., Trout Unlimited, Cal. Trout, *Motion to Intervene and Comments by Friends of the Eel River, Trout Unlimited, California Trout, Pacific Coast Federation of Fishermen's Associations, and Institute for Fisheries Resources Regarding Pacific Gas and Electric Company's Application for Temporary Variance of Flow Requirements*, FERC Project No. 77-313, (April 1, 2024); Friends of the Eel River, Trout Unlimited, Cal. Trout, *Motion to Intervene and Comments by Friends of the Eel River, Trout Unlimited, and California Trout*, FERC Docket No. 77-323 (May 13, 2025)

[23] See e.g. City of Ukiah, *Request for Rehearing by the City of Ukiah of the Federal Energy Regulatory Commission's Order Approving Temporary Variance of Flow Requirements*, (Potter Valley Project NO. 77-320), July 29. 2024; City of Ukiah, *Sixty-day Notice of Violation of the Endangered Species Act*, August 22, 2024; City of Ukiah, *Motion to Intervene by the City of Ukiah in Pacific Gas and Electric Company's Application for Temporary Flow Modification* (Potter Valley Project No. 77-323) May 16, 2025.

[24] See PG&E, *Potter Valley Hydroelectric Project, FERC No. 77-CA 2025 Temporary Minimum Instream Flow Amendment August Storage and Temperature Report*, Sept 11, 2025.

[25] See PVP data via CDEC at https://cdec.water.ca.gov/cdecplotter/JspPlotServlet?sensor_id=14585&end=2025-09-29&geom=SMALL&interval=80&cookies=

[26] Tina Bartlett, California Department of Fish and Wildlife, March 25, 2025 letter to FERC, Subject: Request for the Federal Energy Regulatory Commission to Approve Pacific Gas and Electric Company's February 14, 2025, 2025 Minimum Instream Temporary Flow Amendment Request (Project no. 77-214). Document Accession no. 20250326-5090

Despite these warnings, PG&E's August 2025 report to FERC shows that once again, early diversions mandated by the current flow schedule resulted in irreversible temperature increases throughout the reservoir by July.[27] Again, we note that the temperature improvements seen following Klamath dam removal are exactly what Eel River fisheries, especially steelhead, require. The Proposed Project is urgently necessary to provide for the protection and recovery of fisheries put at needless risk as much by outdated requirements and inflexible rules as by obsolete dams and outmoded practices.

3. Sediment

Dam removal will address the upper Eel's chronic temperature problem, but will create an acute sediment problem in the process. Scott Dam's accumulated sediment problems will become, as noted, a plume likely to cause lethal effects to aquatic organisms for much of the length of the Eel River, and to generate persistent sediment impacts in succeeding high flow years.

Sediment has accumulated behind Scott Dam and Cape Horn Dam for over 100 years, and large amounts of sediment are currently impounded behind each dam. This sediment will be mobilized when the dams are removed, and the free-flowing river will carry it downstream. Short-term adverse impacts of the movement of the impounded sediment through the river, including increased turbidity, decreased dissolved oxygen, blanketing existing aquatic habitat when sediment falls out of solution, and accumulations large enough to affect the location of the river channel, are unavoidable and a direct result of the Potter Valley Project. In some areas, the amount of sediment deposited will be small and may improve any sediment-starved habitat. Effects of this sediment on water quality are by nature short-term, but the detrimental effects of deposited sediment on existing habitat are not, because sediment may remain where it falls absent restoration efforts.

The delivery of sediment to streams and mainstems during the historic Eel River floods in 1955 and 1964 has been well-documented. This excess sediment remains in many areas, where it continues to impair natural habitat forming- and maintaining-processes 50-60 years later. It will be important to understand, through studies, the volume of sediment expected to fall out of solution at every part of the mainstem Eel River, estuary, and nearshore marine environment, and to what extent subsequent winter flows may eventually scour out some of these deposits and carry them to the ocean.

These studies, combined with a comprehensive restoration plan fully funded by PG&E that does not assume winter flows will remove all the sediment leaving restored habitat behind, will provide certainty that these detrimental effects will only be short-term. If the studies, planning and restoration are not reasonably certain to occur and to be effective (e.g., because they are not articulated in enough detail, rely on future flows to correct sediment accumulation without solid basis, or don't have documented monetary resources sufficient to implement), effects of deposited sediment on terrestrial and aquatic habitat must instead be considered long-term.

[27] PG&E letter to FERC, Potter Valley Hydroelectric Project, FERC No. 77-CA 2025 Temporary Minimum Instream Flow Amendment August Storage and Temperature Report, September 11, 2025, see p 11.

However, we ecourage the Board to place its analysis of the issues the sediment flush presents in the context of the Eel River's extraordinary background sediment transport rate. While other rivers may exceed it, "(t)he Eel River draining the Coast Range of northwestern California has the highest recorded average suspended sediment yield per drainage area of any river of its size or larger unaffected by volcanic eruptions or active glaciers in the conterminous United States."[28] This is due to the highly erosive geology of the Eel River basin, as well as high rates of seismic activity and precipitation.

Although most of the Eel's overall sediment discharge happens in the canyon of the mainstem Eel well downstream of the Proposed Project, the volume of sediment accumulated behind Scott Dam over the last century, as well as the speed with which the Van Arsdale reservoir behind Cape Horn Dam filled with sediment after it was built, are among many facts which support the view that the Upper Eel River can and does routinely transport meaningful volumes of sediment.[29]

The fact that the Eel River has carried not only its naturally extraordinary levels of sediment, but also additional amounts discharged due to roads, development, and other actions across the landscape, over the course of the last century should also inform the SWRCB's analysis of how sediment transport in the Eel is likely to proceed following dam removal. Numerous TMDLs written for the Eel River watershed demonstrate the Board's experience in using the abundant information sources regarding sediment in the Eel River watershed. Please do not hesitate to ask if we can be of any assistance.

While the Eel River as a whole appears to be slowly recovering from excess sediment, obvious problems remain, including significant aggradation in the South Fork Eel and Van Duzen Rivers. Additionally, while many of the practices which led to the very high levels of sediment discharge in the second half of the 20th century have been substantially reformed, hard use of inadequate rural roads and mass wasting events remain significant contributors to the Eel's sediment load, and impacts to water quality, in every big storm.

It is our understanding that the precise composition of the sediment behind Scott Dam is still to be determined, and that to some extent PG&E's sediment management plan will need to be adjusted to reflect that information as it is developed. However, our overall sense is that the key question for PG&E and the SWRCB is timing the sediment release from Scott Dam after the dam is lowered. We will need good planning, but we will also need good luck to bring significant rain in the winter following summer dam removal and sediment release. As PG&E has noted, while the sediment plume in the river below the project area will be fatal to aquatic life under the best circumstances, spreading that same sediment out over years will only result in successive years of fatal impacts. It is far better to do it as quickly as possible.

We urge the SWRCB to develop conditions that will best insure the impacts of sediment transport are minimized and mitigated to the extent feasible. These should require

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[28] Lisle, Thomas E. *The Eel River, Northwestern California; High Sediment Yields from a Dynamic Landscape*, citing Brown and Ritter, *Sediment Transport and Turbidity in the Eel River Basin, California*. USGS-DWR 1971.

[29] See e.g. NASA's Dec. 9, 2012 image of the Eel River's sediment plume following storms. https://earthobservatory.nasa.gov/images/79965/sediment-on-the-eel-river

articulation of the process to be followed to determine whether any given year is suitable for dam removal. This process should rely upon the best available scientific information on the predicted volume of winter flows immediately following removal, and be applied under guidance of a team including experts from state and federal resource agencies and Tribal Nations. In addition, SWRCB's conditions should include provisions for measures to be taken if dry years follow dam removal, either immediately after or in subsequent years.

H. Land Use

The proposed Project would in all likelihood entail some changes in local land use, including to existing private resort properties on the Lake Pillsbury reservoir, as well as to recreational facilities around the reservoir. However, those limited changes will not prevent the existing residences around the Project area from continuing to be used especially as summer resort properties.

I. Noise and Vibration

Dam deconstruction and removal will certainly entail significant noise and vibration in the immediate vicinity of the dams. However, the remote location of both dams is such that very few people will be exposed to this noise and vibration who do not seek it out. Impacts on wildlife will at least be temporary.

J. Recreation

Removal of the dams and loss of the reservoirs will reduce opportunities for some kinds of recreation, but it will create chances for other kinds. With dam removal, seasonal kayaking and whitewater rafting is likely to become feasible in the Project area. The Project should include provisions for appropriate river access points to allow and encourage safe recreational boating, fishing, and other recreation on, in, and around the renewed Eel River. Most of the current campgrounds, situated as they are around the reservoir footprint, should be removed. Future facilities should be more conveniently and appropriately located for the new configuration of the river.

Off road vehicle use is pervasive in the area. Thus, it is very important that the restored reservoir be effectively kept off limits to OHVs. OHV use in the reservoir footprint, riparian area, and river would be severely detrimental to restoration and the achievement of desired water quality and ecological benefits. We encourage the SWRCB to work with the Mendocino NF and PG&E to develop appropriate conditions and agreements sufficient to protect these important areas.

K. Population and Housing

We are not aware of any reason to believe that the proposed project will affect the local population, or that of Lake County, in any appreciable respect.

L. Transportation/ Traffic

During Project implementation, the long roads into the area will certainly see additional traffic, large loads, and other impediments to rapid travel. However, these are extremely remote and otherwise low traffic roads, so impacts on traffic are unlikely to be significant. We support measures to improve roads, bridges, and other infrastructure as necessary to support safe dam removal, anticipating such improvements will result in safer and more sustainable transportation systems in the area following dam removal.

As the SWRCB is no doubt aware, scientists have identified a preservative compound in tires as a key driver of mortality in salmonid populations.[30] While, as noted, the Project area is unlikely to host coho salmon (the species most vulnerable to water contaminated by 6ppd and its byproducts) in the near future, steelhead and Chinook salmon that are and will be present can clearly be harmed by these chemicals. It will thus be important to provide mitigation measures for Project transportation that minimize the use of tired (as opposed to tracked) vehicles in and around the future river channel. Note that we understand CalTrans routinely uses recycled tires in its asphalt mixes unless otherwise specified; please insure any road construction associated with this Project avoids that potential vector for contamination of salmon-bearing waters.

M. Tribal Cultural Resources

The Project will certainly entail some impacts on Tribal cultural resources, particularly those beneath the Lake Pillsbury reservoir. We have no specific information about what or where these may be located, but the name Smokehouse Creek is at minimum suggestive of local uses before dam construction. The SWRCB should specify mitigation measures that will conserve to the extent possible such resources, consistent with the wishes of the affected tribal peoples. We encourage the SWRCB and PG&E to undertake all appropriate measures, including providing for cultural resource monitors during Project implementation, to minimize the impacts and best secure the benefits of dam removal on tribal cultural resources.

N. Utilities/ Public Services

We generally support upgrading the infrastructure of the local area both to support dam removal and to provide lasting benefits to residents and visitors. These should include upgraded communications, including cell service, as well as improved and better maintained roadways. We would also construction of a local solar microgrid to support local communications and emergency services.

[30] See e.g. NFMS *Roadway Runoff Known to Kill Coho Salmon also Affects Steelhead, Chinook Salmon,* Aug 24, 2025. See https://www.fisheries.noaa.gov/feature-story/roadway-runoff-known-kill-coho-salmon-also-affects-steelhead-chinook-salmon

O. Wildfire

Dam removal opponents have claimed, without evidence, that removal of the project dams will increase wildfire risk. Overall, wildfire science is increasingly clear that the drivers of increases in both the scale and intensity of wildfires are the increasing temperatures and shifting hydrology associated with climate change. While removal of the project dams may slightly alter fire management in the area around the current reservoirs, there is no reason to believe that removing the Project dams will significantly alter the area's exposure to extreme wildfire risks in the coming decades. The then-record Mendocino Complex fires burned over the area despite the presence of the reservoirs.

While the details of fire management are beyond the scope of these comments, we generally understand two things to be true at this point. Extreme wildfires threaten human communities, and can cause damage to natural resources, including harm to watercourses as a result of post-fire runoff (and removal of too many downed and damaged riparian trees). At the same time, there is no path to a more sustainable future through fire suppression alone. That's the road that brought us to this impasse.

Rather, we must seek to create and maintain forest conditions that allow for healthy fire and the benefits it brings, most importantly forest stands more resistant to the effects of extreme fire. Restoring the natural hydrograph of the Eel River (by removing its mainstem dams, improving roads and using habitat restoration to increase the proportion of winter rains that soak into the soil instead of running off), and managing forests for late seral conditions are two components of a fire-safe landscape the EIR should address.

We encourage the Board to specify conditions that will help to minimize any risks of fire to human communities associated with dam removal. There are practical, feasible options to support local fire management needs after dam removal, e.g., by supplying rotary wing aircraft with water via specific drafting areas, and by sending larger firefighting aircraft several minutes away to draft from the vast surface of Clear Lake. We generally support measures to increase the defensibility and resilience of the human communities in the project area, including improvements to communications and road networks and to firefighting infrastructure. The recent Klamath dam removals provide a good example.

III. Specific comments

A. Mercury

Mercury presents a particular analytic challenge. As PG&E noted in its 2017 Pre-Application Document submitted to FERC,

> *Sampling of fish tissue taken from Lake Pillsbury fish has detected high concentrations of mercury, averaging 1.31 parts per million (ppm) in 350 millimeter (mm) largemouth bass (*Micropterus salmoides*), and the highest concentration for an individual fish (4.08 ppm in a 559 mm largemouth*

bass) in statewide sampling (Davis et al. 2009). Consequently, Lake Pillsbury is designated as impaired for mercury on the California 303(d) list.[31]

This level of contamination appears to violate the SWRCB's Mercury water quality objectives. Compare, for example, to the Sport Fish Water Quality Objective, which the SWRCB stated as "(t)he average methylmercury concentrations shall not exceed 0.2 milligrams per kilogram (mg/kg) fish tissue within a calendar year."[32]

However, PG&E reports that its 2018 water sampling efforts found "Low concentrations of mercury and methyl mercury were detected in all samples."[33] Similarly, preliminary investigations of Pillsbury Reservoir sediments has not revealed a corresponding accumulation of mercury in those sediments.[34] Accordingly, it appears that on that front at least those sediments can be released down the Eel River without leaving a toxic legacy.[35]

The Eel River is listed for mercury under Section 303(d) of the Clean Water Act.[36] We are not aware of definitive evidence of mercury in the local geology. The more probable source for the high levels of mercury found in Pillsbury Reservoir fish is the familiar process by which reservoirs that are regularly filled and drained accumulate mercury from atmospheric sources, while also creating anoxic conditions that allow methylmercury fixation by anaerobic microbes. Thus, removal of the dams per the Project is likely to remove much of the cause of mercury pollution in the upper Eel River.

B. Impacts of Project construction and operations

From its initial construction, the Potter Valley Project has had serious and significant impacts on the Eel River, and particularly on its water quality. While the dam was being constructed, high flows in the winter of 1922-23 wrapped around the incomplete southern side of the dam, undermining and ultimately dislodging what dam builders had thought was an outcropping of bedrock to which they could anchor the dam's southern end. Instead, the boulder fell down into the path of the dam, which was then altered to pass in front of the huge rock. Similarly, both dams' construction and operations have had unanticipated impacts on the Eel River over the entire course of their existence.

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[31] PG&E, Notice of Intent to File Application for New License and Pre-Application Document, 2017, p 5-34.

[32] SWRCB. *Final Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions*, Undated. p. A-5

[33] PG&E License Surrender Application Vol II, p 2.2.3.2-22

[34] See GeoSyntec letter to California State Coastal Conservancy, April 1, 2020, *Lake Pillsbury and Van Arsdale Reservoir Sediment CharacterizationGeosyntec Project Number: WR2625*

[35] Note that while the Eel River is also listed under 303(d) for Aluminum, there is no indication that the metal is not a natural component of the regional rock formations, nor that release of the Project sediments is likely to increase the Eel River's background levels of aluminum. By contrast to the Klamath, there does not appear any indication that chromium is present to a significant degree in the Eel River.

[36] https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2024-integrated-report.html; 303(d) list listed under Reports and Downloads.

During most of the 20th century, the most important alteration caused by the PVP was to reduce flows in the upper mainstem Eel to only the water that PG&E did not divert. That set of practices only ceased after Eel River Chinook salmon and steelhead were listed under the federal Endangered Species Act,[37] when the National Marine Fisheries Service found that continued operations of the PVP under the then-established FERC license would be likely to jeopardize the existence of those ESA-listed fisheries.[38] A substantially revised set of flows was prescribed for the PVP as a result,[39] limiting harms to Eel River salmon and steelhead but ending the era in which the PVP was profitable for PG&E to operate.

The combination of warming temperatures and declining precipitation that climate change bring have made it increasingly difficult for PG&E to meet that flow schedule. Restrictions on reservoir operations due to sediment accumulation and seismic concerns has substantially increased the difficulty PG&E faces, with the Lake Pillsbury reservoir starting every year in what amounts to a "dry year" storage condition. Implementing the Proposed Project will prevent these impacts from continuing indefinitely.

C. Landslide information

Friends of the Eel River commissioned a detailed 2018 study by Miller Pacific Engineering Group of an ancient but active landslide above Scott Dam's southern abutment. Miller Pacific's results suggest that the landslide mass, which measures approximately 500 feet in length and 160 feet in width, extends to potential depths of as much as 110 feet. The landslide appears to contain more than eight million cubic feet of material estimated at approximately 120 pounds per cubic foot. During a seismic event, the force at the toe of the landslide could be as high as 125 million pounds.[40] The firm's conclusion:

> *"it is our professional opinion that the large landslide complex adjacent to, and possibly below, the left abutment presents a significant geological hazard to the dam that requires further investigation. Since the dam acts as a strut across the Eel River, the landslide mass may be applying a significant soil pressure to the dam. In addition, the preliminary calculated seismic displacements are enough to cause concern about uplift or damage to the dam from landslide movement during a strong seismic event."*[41]

There does not appear to be any feasible means of preventing the movement of this landslide. Thus, it should be incorporated into the calculus of potential failure for the PVP, and added to the reasons to proceed expeditiously toward dam removal. The SWRCB

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[37] See 65 FR 36 074 (August 7, 2000) (listing Northern California steelhead); 64 FR 50, 394 (Sept. 16, 1999) (listing California Coastal Chinook).

[38] NMFS, *Biological Opinion for the Proposed License Amendment for the Potter Valley Project, Project No. 77-110* (Nov. 29, 2002).

[39] *Order Amending License*, Project No. 77-110, 106 F.E.R.C. ¶ 61,065 (2004)

[40] Miller Pacific Engineering Group, Scott Dam Slope Stability Analysis Technical Memorandum, Sept. 16, 2018. See https://eelriver.org/wp-content/uploads/2018/09/Miller-Pacific-Technical-Memo-re-Scott-Dam.pdf

[41] Ibid, p 2.

should take into consideration the possibility that this landslide could release prior to or during dam removal and prescribe appropriate measures to minimize those risks.

D. Fisheries specifics

Because the Eel River's spectacular native salmonid fisheries are the heart of our hopes for restoration of the watershed following dam removal, they are the focus of our concern with how the Proposed Project is carried out. In the Project Area – the upper mainstem Eel River – evidence indicates that Chinook salmon and steelhead can and do still depend on habitat in the upper mainstem Eel River, up to the full barrier to upstream passage that Scott Dam has presented for the last century.

While habitat above Scott Dam was determined to be physically suitable for coho salmon, and the species likely utilized the Project area before the dams were built, current evidence suggests that the project area is now too warm for those cold-water dependent fish. However, once the dams are removed, the natural flow regime is reestablished, and habitat restoration is underway, water temperatures should fall, making the area again potentially suitable for coho salmon to transit. Adults may move upstream to spawn in flatter areas of the extensive stream network that was once beneath Lake Pillsbury, and the area could support coho salmon juveniles.

Chinook salmon in the Eel River today are fall-run. They are listed as Threatened under the federal ESA as part of the Central California Coast ESU.[42] While Eel River steelhead are also listed as Threatened under the federal ESA, they otherwise present a more complicated picture. Steelhead (*Oncorhynchus mykiss*) are the anadromous form of rainbow trout (also *O. mykiss*), resident throughout the Eel River watershed, including above Scott Dam. Where rainbow trout possess the genes for anadromy and encounter appropriate environmental cues, they will migrate to the Pacific and become steelhead. However, rainbow trout are neither ESA-listed, nor subject to the jurisdiction of NMFS like their steelhead siblings, but are rather the responsibility of the US Fish and Wildlife Service.[43]

As well, the Eel still hosts native runs of summer-run steelhead, in addition to the now-dominant winter runs. NMFS has to date listed winter and summer steelhead together in the Eel River as Northern California steelhead.[44] The state of California, however, has recognized Northern California Summer Steelhead as distinct from winter-run steelhead, listing them as Endangered under the California Endangered Species Act.[45]

We urge the SWRCB to recognize the significance of the Project for the recovery, not only for salmonids generally and steelhead in particular, but especially for what was the southernmost run of summer steelhead on Earth until Scott Dam was built. As Kannry et. al.

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[42] 64 FR 50, 394 (Sept. 16, 1999)

[43] See 71 FR 834

[44] 65 FR 36 074 (August 7, 2000)

[45] See California Natural Diversity Database (CNDDB). October 2025. *State and Federally Listed Endangered and Threatened Animals of California.* California Department of Fish and Wildlife. Sacramento, CA. p 9. pdf at http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline

have demonstrated, rainbow trout populations above Scott Dam still retain the genetic capacity for both anadromy and for the summer steelhead life history.[46] Thus, a likely result of removal of the project dams will be the restoration and recovery of a population of extraordinary significance that is now functionally extinct. It seems difficult to exaggerate the importance of that kind of benefit of dam removal.

The Eel River is also home to other anadromous species that, while not listed in the Eel, are the focus of significant conservation concern, and which should be considered as carefully in water quality analyses as the salmonids. These include lamprey, the Eel's namesake species, including both Pacific lamprey and brook lamprey, and white and green sturgeon. Restoration of the Eel River requires restoring populations of these once-abundant fish, for their ecological functions as well as their importance to tribal peoples.

Because lamprey ammocoetes embed in the river bottom for years, it seems probable that the sediment flush following dam removal could impact multiple year-classes of lamprey in that vulnerable life stage. With sturgeon, we are concerned that with relatively few sturgeon known to be in the Eel River at any given point, the sediment flush could significantly affect the population that is still present. As well, we understand sturgeon to preferentially use the deeper holes in the river. To the extent feasible, the EIR should assess the potential for the sediment plume to result in the loss of lamprey, sturgeon and sturgeon habitat downriver of the Project area. We are not aware of information regarding patterns of sturgeon use in the Eel River. If, for example, DIDSON and ARIS monitoring stations on the lower mainstem[47] have captured sturgeon movement, that may be helpful in assessing impacts and planning mitigations.

Finally, we note that the Lake Pillsbury reservoir is an ongoing source of invasive Sacramento pikeminnow, which now permeate the Eel River watershed, significantly dampening salmonid recovery by their voracious predation of juvenile salmonids and displacement from habitat. Pikeminnow benefit from the warm, slack water conditions that are physiologically stressful to salmonids, but which predominate in much of the Eel watershed during the dry seasons now.

Reduction in these conditions, and of pikeminnow populations, is a key goal of restoration in the Eel River. If the sediment flush could be configured to maximize harm to pikeminnow while minimizing harm to salmonids, that would be ideal. That seems unlikely. However, there may be ways to amplify the impacts of the sediment flush on the Eel's current population of pikeminnow. Consideration should be given to reducing pikeminnow populations and reproduction, as well as to restricting their distribution in portions of the watershed. To the extent pikeminnow populations can be reduced, that will assist salmon and especially steelhead populations to recover more quickly from dam removal and to reestablish new populations above the present dam sites.

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[46] Kannry, Samantha H., Sean M. O'Rourke, Suzanne J. Kelson, and Michael R. Miller, *On the Ecology and Distribution of Steelhead (*Oncorhynchus mykiss*) in California's Eel River*, Journal of Heredity, 2020, 548–563, doi:10.1093/jhered/esaa043

[47] CalTrout and the California Department of Fish and Wildlife have lead teams operating those stations and are your best source for the associated reports.

E. Significant Suitable Fisheries Habitat Is Available Above Scott Dam

Among the most conspicuous benefits of dam removal will be removal of the barrier Scott Dam has presented to salmon and steelhead migration for the last century. As an important NMFS peer-reviewed scientific analysis of the habitat in the Eel watershed above Scott Dam concluded in 2022, the habitat now out of reach to salmonids above Scott Dam is indeed potentially significant for salmon population recovery in the Eel River:

> *… we conclude that the Upper Mainstem could likely support populations of winter-run steelhead, summer-run steelhead, and fall-run Chinook salmon based on the amount of thermally and geomorphically suitable habitat for multiple freshwater life stages during warm months and during drought. But a potentially more important question is: if access was provided to the Upper Mainstem, would these populations rebound? In a similar system, multiple anadromous salmonid populations have recolonized – both naturally and with human assistance – the Elwha River in Washington since the removal of the Elwha Dam, which had been in place for over 100 years (Bellmore et al. 2019, McMillan et al. 2019). In the Eel River Basin, a recent steelhead genetic study showed that fish with summer-run and winter-run alleles still reside upstream of Scott Dam after 100 years of isolation from other anadromous populations (Kannry et al. 2020). If downstream access was provided to the Upper Mainstem, these fish have to potential to "restart" the anadromous populations, potentially without additional reintroductions, recolonizations, or translocations from other subbasins (Kannry et al. 2020). Based on our evaluation of the quality and quantity of suitable habitat and potential capacity, enabling access to the blocked Upper Mainstem subbasin would be comparable to adding another Van Duzen subbasin to the Eel River Basin.*[48]

The Eel River basin is a critically important area for the ESA-listed coho salmon, Chinook salmon, and steelhead found there. None of these species can recover and be delisted without basin wide recovery.[49] Removal of the Eel River dams is the most significant action known that can advance recovery of all three of the ESA-listed salmon and steelhead species native to the Eel River watershed. Dam removal will restore natural habitat forming-and retaining-processes by restoring natural flow regimes and sediment

[48] Fitzgerald, A.M., D.A. Boughton, J. Fuller, S.N. John, B.T. Martin, L.R. Harrison, and N.J. Mantua. 2022. Physical and biological constraints on the capacity for life-history expression of anadromous salmonids: an Eel River, California, case study. Can. J. Fish. Aquat. Sci. 79: 1023–1041.

[49] As described in NMFS' recovery plans for SONCC coho salmon (NMFS 2014) and CC Chinook salmon and NC Steelhead (NMFS 2016), each listed ESU or DPS is composed of multiple groups of populations, or "diversity strata." No ESU or DPS can be viable (at low risk of extinction) and thus eligible for delisting unless all of its diversity strata are viable. No diversity stratum can be viable unless enough of its component independent populations are viable. Populations in the Eel River are key components of diversity strata for each of these species; therefore, no ESU or DPS can be viable and delisted without viability of those key Eel River populations. For example, three of the five diversity strata of NC steelhead are made up entirely of Eel River populations (NMFS 2016).

delivery mechanisms, and by converting stream habitat currently underwater in reservoirs into suitable rearing and spawning habitat. Restoring the populations in the upper Eel River, along with improving river conditions for its entire length, will be critical to the recovery of these species in the Eel River basin.

Removal of the two mainstem Eel River dams is necessary for the recovery of all Eel River salmonid populations, not only those in the footprint of the Project. This is because all of these salmonids must pass through the lower Eel River and estuary twice: first as smolts when they travel from their natal streams to the ocean to grow, then as adults when they journey from the ocean back upstream to their natal streams to spawn.

The altered flow regimes currently in place contribute to poor habitat for the adult Chinook salmon that arrive before the fall rains and hold in the lower Eel River waiting for higher flows. Altered sediment regimes and a managed hydrograph degrade habitat in the mainstem Eel River and the estuary. Finally, the Lake Pillsbury reservoir is a continuous source of invasive Sacramento pikeminnow, which consume and displace juvenile salmon and steelhead.

Removal of the Eel River dams will contribute to recovery of salmon and steelhead populations in the upper mainstem Eel River, especially in reaches above Scott Dam's present location. Restoring these populations are indispensable to the recovery of the species at regional levels.[50]

F. Wildlife impacts

Similar to impacts on fish, wildlife impacts will be felt short-term, in exchange for long-term benefits following dam removal. While bald eagle and other raptors enjoy the fishing and hunting opportunities the reservoir provides, those species are also commonly observed along the length of the Eel River, like the elk that currently resident in the Lake Pillsbury reservoir area. Like humans, these raptors are likely to significantly benefit from dam removal reducing the mercury they ingest from reservoir-caught fish.

One of the most important species for river function and water quality across the American West is the beaver. PG&E has downplayed the presence of beaver in the project area because they seek diligently to dam even the utility's diversion works. Once dam removal has been accomplished, these instinctive engineers will be free to contribute again to river health. Beaver dams slow floodwaters, increase infiltration, promote landscapes more resilient to wildfire, and provide habitat for many other species, including salmonids. By allowing beaver recovery, dam removal will accelerate nature's own restoration systems. The SWRCB should note opportunities and prescribe measures to provide for beaver recovery following dam removal.

G. Project Breakdown

As noted above, the PVP as it presently operates is a system on the brink of irrecoverable failure. The PVP no longer functions as a hydroelectric producer. At one level,

[50] Ibid.

this is because an expensive transformer failed. But at another, it has apparently been the case for at least a decade that PG&E could not recover its costs to generate power from the PVP, but can easily secure far less expensive supplies from solar, wind, and other renewable sources.

More seriously, while the PVP still stores water behind Scott Dam and diverts it to the East Branch Russian River via the Cape Horn Dam, the system's ability to do so has been significantly impaired by storage reductions and is increasingly at risk of a permanent failure. Because Scott Dam's only remaining low level outlet, the needle valve, is at risk of being impinged by sediment accumulated behind Scott Dam, PG&E has adopted limitations on both the minimum storage levels in the Lake Pillsbury reservoir and on the rate at which it can be drawn down. Both measures are intended to reduce the likelihood that rapid drying of the sediments steeply stacked around the margins of the reservoir would lead to spalling and settling of additional sediment around the needle valve's intake.

With every year, more sediment flows into the reservoir and accumulates atop the rest. PG&E has no practicable means to remove the sediment. Nor is there any feasible way to replace the needle valve once it becomes clogged. If the needle valve fails, water could only escape Scott Dam by overtopping the dam. Water could not be released to the East Branch Russian River or to the Eel River unless the reservoir were full. Such an outcome would be disastrous for virtually all stakeholders and interests. Eel River fisheries would be trapped below Scott Dam with no hope of cooling releases. Russian River water users would not be able to use Eel River water to cover their shortfalls.

Thus, while prudent management can reduce the risk of failure, the wiser course is clearly to move at all deliberate speed toward an equitable resolution that removes the dams and their associated risks and unreliability, replacing them with a more resilient diversion that will have dramatically less impact on Eel River fisheries. Delay is likely to prove as expensive and risky for PG&E as it is for Eel River steelhead.

H. Invasive species

In addition to Sacramento pikeminnow, detailed above, the project area is known to have existing populations of invasive plant species. The ecological benefits, including water quality benefits, of dam removal and watershed restoration could be diminished if invasive plants were allowed to become established following dam removal. As well, the Lake Pillsbury reservoir is known to harbor additional non-native fish species, and may also host invertebrate species (e.g. mussels) that pose risks to ecosystems and species if they are permitted to spread. We encourage the SWRCB to adopt suitable conditions requiring restoration of native plant species, control of invasives, and similar measures as appropriate for aquatic species.

IV. Conclusion

In conclusion, we can only empathize with SWRCB water quality staff in this matter. As noted, the successful implementation of Klamath dam removals with SWRCB guidance offers us real hope that this process will be easier for agencies like SWRCB to repeat for the

Eel River. If you have any questions regarding these comments, please contact Scott Greacen at Friends of the Eel River, ideally via email to scott@eelriver.org.

Thank you for your attention to these issues.

Sincerely yours,

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