FRIENDS OF THE EEL RIVER

Working for the recovery of our Wild & Scenic River, its fisheries and communities.

Thursday, June 12, 2025

U.S. Army Corps of Engineers
San Francisco District
Submitted electronically to the RRS
and via email to Fairfax.K.Finn@usace.army.mil

RE: Comments on Permit Application No. SPN-2007-00857; LOP 2025-1 decennial gravel mining procedure for Humboldt County, California operations

Dear F. Kelly Finn,

Thank you for providing this opportunity to comment on the proposed permit.

Friends of the Eel River is a citizens' group based in Eureka, California, dedicated to the protection and restoration of fisheries in northwestern California's Eel River. FOER represents our membership's interests in a range of issues and fora, from decommissioning the Potter Valley Project dams on the upper mainstem Eel River to the public trust impacts of groundwater extraction in the Lower Eel River.

The San Francisco District of the U.S. Army Corps of Engineers (Corps) has received an application for a permit pursuant to Section 404 of the Clean Water Act (33 U.S.C. §1344) and Section 10 of the Rivers and Harbors Act (33 U.S.C. §403) from Humboldt County Gravel Operators and Mining Companies.[1] Under its Clean Water Act and Rivers and Harbors Act authorities, the Corps has, since 1996, provided a Letter of Permission (LOP) procedure for granting expedited permits to gravel companies operating in Humboldt County, California. The purpose of the LOP is "to streamline permit authorization for applicants proposing gravel extraction and related work *not posing significant adverse individual or cumulative impacts to the aquatic environment*." (emphasis added)

In permit 2025-1, the Corps proposes to renew the 10 year Letter of Permission (LOP) procedure for regular gravel extraction activities in waters of the United States within Humboldt County, California. These actions include, but are not limited to, sand and gravel extraction and associated work, such as temporary storage of gravel, salmonid habitat improvement activities associated

[1] We remain uncertain regarding the identiy of the entities included in the applicant Humboldt County Gravel Operators and Mining Companies. This is probably due to our lack of familiarity with the Corps' procedures. We do see what appears to be a partial list on the Corps' RRS site. Five operations are noted there: Eureka Ready Mix, Leland Rock Logging, Mad River Sand and Gravel, Randall Sand and Gravel, and Van Duzen River Ranch. We understand there are additional entities engaged in gravel extraction in Humboldt County, including the County itself, but we don't have a comprehensive list.

with gravel extraction locations, and installation of temporary road crossings. Under the LOP process proposed to be renewed in LOP 2025-1, gravel miners receive site-specific LOPs for specific properties. On an annual basis and following the process to be laid out in LOP 2025-1, annual Letters of Modification (LOM) would both authorize annual extraction and set out limitations necessary to protect natural and cultural resources.

Specific locations include the Middle and South Forks of the Eel River, as well as Eel tributary the Van Duzen River. All of these rivers are designated critical habitat for salmonids listed under the federal and state Endangered Species Acts (ESA). Threatened Chinook salmon and steelhead are present in each of these watersheds. Threatened coho should be considered in analyses of South Fork Eel and Van Duzen River projects. Summer steelhead, listed as Threatened under the federal ESA but Endangered under the California ESA, are of particular concern in the Van Duzen and Middle Fork.

We appreciate the Army Corps' careful attention to the questions raised by this application. The proposed permit will be issued in a complex regulatory environment. As the notice states, the Corps' permitting authority is conditioned on the RWQCB's water quality permitting authority under the Clean Water Act. Operations in the Coastal Zone are subject to California Coastal Commission permitting requirements.[2] In addition, operations in California watercourses must obtain Lake and Streambed Alteration permits from DFW pursuant to §1602 of the CA Fish and Game Code. Most significantly, the permit is subject to consultation under Section 7(a) of the federal ESA with the National Marine Fisheries Service (NMFS), regarding anadromous species, and with the US Fish and Wildlife Service (USFWS), regarding terrestrial species.

Previous consultation regarding LOP 2015 resulted in a NMFS Biological Opinion and incidental take statement that included Reasonable and Prudent Measures limiting and mitigating impacts to ESA listed species.[3] Our support for LOP 2025 is subject to a similar set of practices and standards being established going forward, as well as to NMFS and USFWS retaining the capacity to fully engage on these issues when and as necessary. If NMFS and USFWS expert capacity becomes too degraded to provide effective guidance, the Corps may need to revisit the procedures provided in LOP 2025 to provide for increased guidance from state authorities to the extent feasible.

Effects of Gravel Mining

Unfortunately, gravel mining in the Eel River and its tributaries have resulted in significant negative impacts, including cumulative impacts, to Eel River fisheries, including but not limited to species listed under the ESA and their habitat. This should not surprise us. As NMFS notes in

[2] See, e.g. the Coastal Commission's 2016 staff memo regarding permitting of gravel extraction operations at the Worswick Bar, just upstream from Fernbridge on the lower Eel River.

[3] The Biological Opinion for LOP 2015-1 is attached to the Coastal Commission staff memo cited in footnote 2 above. It includes highly detailed prescriptive measures for how, where, and when gravel extraction may be conducted, and provides incidental take coverage to the extent those measures are fully implemented.

their 2004 Sediment Removal From Freshwater Salmonid Habitat guidance document, "the scientific literature documents that instream gravel mining operations and salmonids are often attracted to the same locations."

In streams designated as critical habitat, in-channel sand and gravel mining constitutes the extraction and sale of habitat determined to be essential to the conservation of the species. Because of the need for clean (consistent grain size) gravel of a specific size range, gravel deposits targeted for extraction from stream channels are often the very same locations and gravels historically used by salmonids for spawning. This is due to geomorphic controls on sediment deposition and grain sorting processes, and long-term habituation of fish to spawning beds. There is potential for such impacts across the Eel River watershed, including in the Van Duzen River, as well as the Middle and South Forks of the Eel River.

Long-term losses of habitat can result from the loss or degradation of fundamental geomorphic features (i.e., riffles and pools) that provide for fish spawning beds and juvenile rearing habitat. Sediment removal from stream banks and bars can also cause increased channel widths and corollary reduced flow depths, resulting in migration blockages or delays. Gravel mining is also known to cause increased turbidity and significant changes in the sediment transport rates and timing that can adversely affect fish migratory behavior as well as egg and alevin survival rates. Large scale, aggressive gravel mining is known to result in the loss of hydrologic and channel stability, and causes increased bank erosion and/or streambed downcutting that can extend great distances upstream and downstream from the removal site. All forms and scales of sediment removal cause some loss of riparian habitat.

NMFS specifically cites impacts from sand and gravel mining as contributing to the decline and subsequent extinction risk of ESA listed salmon and steelhead:

> *Extraction sites located along or in active flood plains present particular problems for anadromous salmonids. Physical alteration of the stream channel may result in the destruction of existing riparian vegetation and the reduction of available area for seedling establishment. As discussed previously, loss of vegetation impacts riparian and aquatic habitat by causing a loss of the temperature moderating effects of shade and cover, habitat diversity. Extensive degradation may induce a decline in the alluvial water table, as the banks are effectively drained to a lowered level, affecting riparian vegetation and water supply. Altering the natural channel configuration will reduce salmonid habitat diversity by creating a wide, shallow channel lacking in the pools and cover necessary for all life stages of anadromous salmonids.*[4] (Citations removed)

[4] Factors for Decline, A Supplement to the Notice of Determination for West Coast Steelhead Under the Endangered Species Act. National Marine Fisheries Service, 1996, Page 26. See also Factors Contributing to the Decline of Chinook Salmon: An Addendum to the 1996 West Coast Steelhead Factors for Decline Report. National Marine Fisheries Service, 1998.

At the same time, in appropriate circumstances sand and gravel extraction is not only commercially and industrially useful and valuable, it has also helped to reduce impacts to fisheries and river systems from substantial increases in aggradation caused by poor land use practices, especially logging and road building. Although the worst impacts in terms of mobilizing sediment in the Eel River are generally many decades in the past, their substantial legacy moves downstream only very slowly. Thus, areas like the lower Van Duzen and lower Eel River remain substantially affected by volumes of river sediment well in excess of pre-settlement averages, and actions like those authorized by this LOP that are designed to enhance habitat for salmonids and other riverine species can be critical parts of a larger strategy to protect and restore Eel River fisheries.

In addition, emergency interventions have proven necessary in recent low flow years to reduce impacts on listed Chinook in pools in the lower Eel River. Such actions must be carefully considered as well as timely, and can only reduce, not eliminate, the impacts on public trust resources that drought and very low flows entail. Under the critical conditions low flow events entail, rapid response to execute carefully considered measures – e.g., to reconnect pools containing holding adults to river flow – can be essential.[5] Overall, the Corps' relative success in coordinating complex federal, state, and local authorities, permittees and operators under previous Letters of Permission is to be commended. We hope that in future drought years, adaptive responses to even better protect Eel River salmon may benefit from higher surface flows if Humboldt County moves to exercise its jurisdiction over groundwater extraction that affects surface flows in the lower Eel.

Nonetheless, and despite the best efforts of many agencies, there have been several years during the effective period of the Corps' LOP 2015-1 in which there clearly have been significant impacts to Eel River fisheries, particularly in the lower Eel River, as a result of the cumulative impacts of low flows and other factors. Gravel extraction cannot be excluded as a contributing factor in these significant effects.

During one recent low flow season, although not the most extreme year, diseased, dying and dead pre-spawning Chinook salmon were observed in the lower Eel River. Investigations by DFW and UC Davis researcher Esteban Soto found variable dissolved oxygen, which, along with other stressors (high temperature, persistent drought and abundant algae) were associated with "abnormal behavior (lethargy, decreased avoidance of humans, congregating at the banks of the river) and cloudiness and opacity in eye of impacted Chinook salmon."[6] Soto noted that the

[5] See DFW memos of September 8th and 20th, 2021 re **Conditions for 2021 Fish Passage and Staging/Holding in the Lower Eel River, at Sandy Prairie,** and **Implementation and Monitoring of Fish-Passage Riffle-Alterations in the Lower Eel River at Sandy Prairie** (attached).

[6] Soto, E. 2016. Eel River Chinook Salmon *(Oncorhynchus tshawytscha)* Parasitic-Viral Coinfection. Department of Medicine & Epidemiology, School of Veterinary Medicine. University of California, Davis. 2108 Tupper Hall. Davis, California.

affected fish were holding in very shallow water (4ft) and that "clinical signs associated with this case were not observed in Chinook salmon that completed upriver migration."[7]

We must also note that there is evidence of chronic violations of the terms and conditions applied to gravel operations in Humboldt County under LOP 2015-1, and of a persistent lack of enforcement that has failed to correct such violations. In its 2016 comments to Humboldt County regarding the Jack Noble Surface Mining Permit, DFW noted a series of "substantial concerns" with the project, including:

> *1. Impacts from ongoing, unpermitted bank modification/stabilization activities on the riverine ecosystem;*
> *2. Potential impacts to sensitive, Threatened, and/or Endangered species from Project activities;*
> *3. Lack of adequate environmental review for the Project;*
> *4. Loss of riparian habitat from various Project components;*
> *3. Prior and ongoing violations of FGC and other local, State, and federal regulations related to the Project: and*
> *6. CHERT is identified as mitigation for the Project despite a lack of full staffing of CHERT as outlined in Humboldt County Resolution 96-37, in addition to a lack of clarity in the roles and responsibilities of CHERT members, leading to the appearance of a conflict of interest related to this Project.* [8]

Each and every one of these substantial concerns points to a gap between the nominal environmental safeguards provided by LOP 2015-1 and actual implementation. Activities by Jack Noble Mining in and around the Van Duzen River and Yager Creek resulted in serious, serial violations of the §1600 permit DFW had issued, including:

> • *work outside seasonal work windows during high flows;*
> • *numerous unclean reinforced concrete rubble revetment placements with asphalt chunks, rebar, metal plates/beams/bolts, and rubber/plastic/fabric liners;*
> • *soil grading and deposition in the main and secondary channels;*
> • *heavy equipment use in the wetted channels;*
> • *heavy equipment use and staging with fluid leaks; and*
> • *riparian vegetation disturbance and removal.*

The Noble case alone points to the potential for very serious harms to listed species and designated critical habitat as a consequence of violations of terms and conditions and the failure of enforcement.

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[7] Ibid. See also Soto E, Camus A, Yun S, Kurobe T, Leary JH, Rosser TG, Dill-Okubo JA, Nyaoke AC, Adkison M, Renger A, Ng TFF. First Isolation of a Novel Aquatic Flavivirus from Chinook Salmon (Oncorhynchus tshawytscha) and Its *In Vivo* Replication in a Piscine Animal Model. J Virol. 2020 Jul 16;94(15):e00337-20. doi: 10.1128/JVI.00337-20. PMID: 32434883; PMCID: PMC7375375.

[8] See DFW letter of September 6, 2016 to Humboldt County re Mitigated Negative Declaration for Jack Noble Surface Mining Permit, Reclamation Plan, and Conditional Use Permit Renewal, SCH #1992013033 (attached).

Climate change driven increases in regional temperature, and especially summer evaporative atmospheric demand, are very likely to lead to future low flow conditions throughout the Eel River watershed, including the Middle and South forks as well as the Van Duzen River. As well, river managers must anticipate that decommissioning of the two Potter Valley Project dams on the upper mainstem Eel River, beginning as soon as 2028, is very likely to result in the release of large volumes of sediment that are likely to affect the Eel River all the way to the Pacific.[9]

While it is generally understood that the "Eel River has the highest recorded average annual suspended-sediment yield per square mile of drainage area of any river of its size or larger in the United States,"[10] and that land use practices of the early and middle twentieth century increased that sediment burden, this event will very likely result in the Eel's capacity to move sediment being exceeded by supply for years or even decades in some reaches. We strongly encourage the Corps and Humboldt County gravel operators to plan ahead for this event. Thus, LOP 2025 should learn from, and improve on, LOP 2015-1 where possible.

Given that significant individual and cumulative impacts to listed species have in fact occurred and seem likely to recur, an Environmental Impact Statement should be prepared for LOP 2025 to consider how best to address the risks associated with gravel mining to Humboldt County's fisheries and rivers.

Avoidance and minimization of impacts

The public notice states that the LOP 2025-1 "contains general conditions intended to avoid and minimize impacts to the aquatic habitat." It further notes that "all annual proposed gravel extraction plans go through a review process including on-site," but there appear to be word or words missing from the sentence following 'on-site' (review? inspection?).

We appreciate the note that "additional measures may be added to individual LOPs on a case-by-case basis and included in the LOM based on current conditions to minimize adverse impacts to the aquatic ecosystem." We would appreciate clarification here as to what the threshold for 'additional measures' would be. What range of potential impacts might trigger additional measures or their consideration? When operations are planned in February, it may not be possible to accurately project river conditions in August and September. How will LOP 2025-1 provide for changing conditions? What other agencies/ entities (i.e. tribes) will be consulted? If additional measures have been required in the past, under what types of circumstances, and what did those measures consist of? In general, where additional measures are found necessary, they should continue for the remaining life of the LOP unless specifically noted to be temporary in nature.

[9] See PG&E's draft license surrender application at https://www.pottervalleysurrenderproceeding.com/ (password: PV_Surrender).

[10] See Brown and Ritter, *Sediment Transport and Turbidity in the Eel River Basin*, Geological Survey Water Supply Paper 1986, 1971.

Compensatory Mitigation
The notice states that "compensatory mitigation would be decided on a case by case, site specific basis for all unavoidable impacts to jurisdictional wetlands and waters during the annual plan review and LOM process." Again, we'd appreciate further clarification about the range of compensatory mitigation actions undertaken in conjunction with these operations. If any have been required, please describe at least the range of such projects undertaken. We are concerned that the ratio of mitigation to impact be high enough to reflect temporal impacts, i.e. the time necessary to establish a new functioning wetland, as well as the overall difficulty of establishing effective new wetlands.

Species at Risk
The public notice states that the proposed project may affect certain "listed species and critical habitat listed below. No other ESA-listed species or critical habitat will be affected by the proposed action." There are, however, other species at risk which may be subject to harm from gravel extraction. These include green sturgeon, ESA listed south of the Eel but not in it; coastal cutthroat trout, which reach their southernmost distribution in the lower Eel; Pacific lamprey, focus of the Pacific Lamprey Conservation Initiative; and foothill yellow-legged frog, listed under the federal ESA in four of its distinct population segments, although not listed in NW California.

Natural resources are of course often also cultural resources. While some salmonid species of very high cultural significance are listed under the ESA, others, e.g. lamprey and green sturgeon, have not been listed, but are species of conservation concern. It would be appropriate for the Corps to consider potential impacts on lamprey and sturgeon in its analysis of each operation permitted under this LOP.

Conclusion
Low flow events have clearly resulted in significant impacts to threatened Chinook in the lower Eel River. Those impacts were at least in part the consequence of cumulative impacts of a range of modifications to the lower Eel, including construction of levees and groundwater use for agricultural and municipal purposes. But those impacts also include aggradation of the lower river and gravel extraction in key areas of the lower river. As well, there is evidence that at least some operators have failed to meet the performance standards required by the Corps and other agencies.

In sum, while we appreciate the efforts of the Corps, federal and state authorities, and the operators to minimize and mitigate the impacts of gravel extraction in the Eel River on the river and its fisheries, we remain concerned that the full range of potential impacts, particularly to ESA-listed Chinook, has not yet been subject to full analysis under NEPA. Challenging and changing conditions for salmonids in the Eel River, including climate change but also the impending removal of the Potter Valley Project dams, increase the likelihood that future conditions for gravel operations may not reflect recent experience. A comprehensive and up to

date review of potential impacts, including cumulative impacts, will help to provide for lower impact operations and more effective mitigation measures.

Thank you for your consideration of these comments, and for all your work on behalf of the public interest.

Sincerely,

/s/
Scott Greacen
Conservation Director