

CALIFORNIA COASTAL COMMISSION

ENERGY, OCEAN RESOURCES AND FEDERAL CONSISTENCY
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Objection Letter to Negative Determination No. ND-0008-24

Background

Since November 2021, Commission staff have informed Federal Railroad Administration (FRA) that coastal effects are reasonably foreseeable from the proposed federal agency activity and that a consistency determination should be submitted for Commission review. In February 2022, Mendocino Railway submitted a consistency determination on behalf of FRA for the Project. After further discussion with FRA, Commission staff advised FRA to withdraw that consistency determination because it did not come from FRA, as required under section 307(a)(1)(C) of the Coastal Zone Management Act (CZMA) (codified at Title 16 United States Code (USC) section 1456(a)(1)(C)), and because it was premature since FRA had not yet accepted Mendocino Railway's loan application or decided if it would consider it. The FRA formally withdrew that consistency determination in April 2022. At that time, FRA committed to submitting a consistency determination if it decided to accept Mendocino Railway's loan application and consider loan approval. Notwithstanding FRA's commitment to comply with the CZMA, its staff had very little communication with Commission staff between April 2022 and late 2023. In late 2023, FRA instead decided to move forward with approval of the loan application without further communication or coordination with Commission staff and without the required CZMA review. And on January 12, 2024, FRA informed Commission staff that it had executed the final loan document with Mendocino Railway on January 5, 2024, for the RRIF loan to fund the Project. As a result of further discussions with Commission staff in early 2024, however, FRA requested that the Commission accept its Categorical Exclusion Worksheet as a negative determination submittal.

In response to the Federal Railroad Administration Negative Determination submittal, Commission staff proposes that the Commission formally vote to authorize the Executive Director to finalize and send the attached draft Negative Determination objection letter to the Federal Railroad Administration by making the following motion and resolution:

Motion

I move that the Commission **authorize** the Executive Director to finalize and transmit the attached objection letter, with any requested modifications from the Commission, to the Federal Railroad Administration in response to Negative Determination No. ND-0008-24.

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in the Commission's objection to Negative Determination No. ND-0008-24. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution

The Commission hereby **authorizes** the Executive Director to finalize and transmit the attached objection letter, with any requested modifications from the Commission, to the Federal Railroad Administration in response to Negative Determination No. ND-0008-24 and adopts the findings set forth in the letter, as modified, that the Negative Determination No. ND-0008-24 is not consistent with the Coastal Zone Management Act because the proposed federal agency activity will have reasonably foreseeable coastal effects.

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March 26, 2024

Lauren McAdams
Attorney-Advisor
Office of the General Counsel
US Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

**Re: Negative Determination No. ND-0008-24: Federal Railroad Administration
Railroad Rehabilitation and Improvement Financing Loan to Mendocino Railway for
Railroad Rehabilitation Project**

Dear Ms. McAdams

As requested through an email received from Jamie Larkin, Federal Railroad Administration (FRA) Acting Supervisory Environmental Protection Specialist, on February 8, 2024, the Coastal Commission (Commission) staff is considering the partial submittal¹ of the Federal Railroad Administration Categorical Exclusion Worksheet (provided to Commission staff as background information on January 12, 2024, and included as an attachment to this letter) to be a negative determination for its federal agency activity, which is the FRA's approval of a Railroad Rehabilitation and Improvement Financing (RRIF) loan to Mendocino Railway for its Railroad Rehabilitation Project (Project). The purpose of the project is, in large part, to allow Mendocino Railway to safely reopen the full extent of its approximately 40-mile excursion rail line which has not operated since 2015 due to a tunnel collapse on the line. The FRA completed the Categorical Exclusion Worksheet as part of its National Environmental Policy Act (NEPA) compliance in reviewing the environmental impacts of the RRIF loan application for the Project. As the name suggests, the FRA found that the Project funded by the RRIF loan is categorically exempt from NEPA review.

Since November 2021, Commission staff have informed FRA that coastal effects are reasonably foreseeable from the proposed federal agency activity and that a consistency determination should be submitted for Commission review. In February 2022, Mendocino Railway submitted a consistency determination on behalf of FRA for the Project. After further discussion with FRA, Commission staff advised FRA to withdraw that consistency determination because it did not come from FRA, as required under section 307(a)(1)(C) of the Coastal Zone Management Act (CZMA) (codified at Title 16 United States Code (USC) section 1456(a)(1)(C)), and because it

¹ The Categorical Exclusion Worksheet describes over 15 supplementary attachments (maps, figures, comment letters, design figures, scope of work, land use assessments, photographs, etc.). FRA excluded all these attachments when it provided the Worksheet document to Commission staff for review and failed to provide them when specifically requested to do so.

was premature since FRA had not yet accepted Mendocino Railway's loan application or decided if it would consider it. The FRA formally withdrew that consistency determination in April 2022. At that time, FRA committed to submitting a consistency determination if it decided to accept Mendocino Railway's loan application and consider loan approval. Notwithstanding FRA's commitment to comply with the CZMA, its staff had very little communication with Commission staff between April 2022 and late 2023. In late 2023, FRA instead decided to move forward with approval of the loan application without further communication or coordination with Commission staff and without the required CZMA review. And on January 12, FRA informed Commission staff that it had executed the final loan document with Mendocino Railway on January 5, 2024, for the RRIF loan to fund the Project. As a result of further discussions with Commission staff in early 2024, however, Ms. Larkin provided her request that the Commission accept the Categorical Exclusion Worksheet as a negative determination submittal.

Although highly unusual, not provided for under the regulations that govern federal consistency review, and in direct conflict with the spirit of coordination fundamental to the Coastal Zone Management Act, Ms. Larkin's email also set forth a variety of "pre-conditions" for the Commission's review of this negative determination. As a concession to Commission staff and to enable federal consistency review prior to commencement of the Project, FRA agreed to withhold any disbursement of loan funds to Mendocino Railway until such time as the Commission completes the adequate review of FRA's negative determination. Among other pre-conditions, however, was that the Commission itself concur with or object to the negative determination and that Commission staff "back-date" receipt of the negative determination to January 12th and use that date as the start of its 60-day review period². As noted by Commission staff to FRA, this effectively cut the Commission staff's review period in half, limiting our ability to work with FRA to address informational needs and concerns raised by the negative determination, to the detriment of effective public process, the Commission's natural resource management mandates and FRA's stated Guiding Principles³ of transparency, accountability, stakeholder engagement and stewardship of the public's trust and resources. Given the controversial nature of the proposed project, high level of public interest in it, and the associated need for Commission staff to complete its review in time to engage the Commission's transparent decision-making process by holding a public hearing on March 14th, this meant that Commission staff's review was cut to only a matter of weeks.

Despite these constraints and Commission staff's opposition to FRA's refusal to comply with the requirements of the CZMA until Commission staff's acceptance of conditions affecting the scope and timing of its review, Commission staff has nevertheless reviewed the negative determination and prepared this letter in response. Given the short review period and the Categorical Exclusion Worksheet's incomplete details of the full scope of the Project, this letter does not provide a comprehensive

² As provided for in Section 930.35 of the Coastal Zone Management Act regulations, the federal agency must approve one 15-day extension of the 60-day review period, when requested by a State Agency. Commission staff requested this extension on February 25th and it was granted, thus establishing a 75-day review period.

³ <https://railroads.dot.gov/about-fra/about-fra>

accounting of the full range of the Project's reasonably foreseeable coastal effects, but instead summarizes several of the most likely and substantial.

Determination

The Commission hereby objects to FRA's negative determination and, as detailed further below, asserts that coastal effects are reasonably foreseeable from the proposed federal agency activity. As a result, the Commission requests that FRA prepare a consistency determination for the proposed federal agency activity and submit it for Commission review, as required under the CZMA.

Railroad Rehabilitation Project

FRA is proposing to provide a Railroad Rehabilitation and Improvement Financing loan of approximately \$31 million to the Mendocino Railway for improving track, bridges, and other infrastructure, and purchasing rolling stock. As described in additional detail in the attached Categorical Exclusion Worksheet (Cat Ex), the project would:

1. replace approximately 32,100 railroad ties along MR's entire 40-mile rail line, which extends from Fort Bragg inland to the town of Willits;
2. replace approximately 2,150 sticks of rail;
3. undertake approximately \$21 million in related track work and right-of-way improvements, including:
 - a) installation of four railroad sidings (additional short sections of track parallel and adjacent to the main line) roughly 2, 10, 21 and 33 miles from Fort Bragg);
 - b) establishment of walkways and footpaths for maintenance crews adjacent to the rail line for the entire 40-mile Fort Bragg to Willits length;
 - c) installation of electrical power utilities (poles and overhead lines) adjacent to the rail line for the entire 40-mile Fort Bragg to Willits length;
 - d) installation of new security fencing and cameras along the rail line from Fort Bragg to Willits;
4. replacement of 50 to 60 sets of wooden support beams and modernization of other support structures inside the collapsed train tunnel located roughly 3.5 miles from Fort Bragg as well as the following work on the collapsed tunnel:
 - a) clearing and shoring the tunnel entrance on the western end;
 - b) geotechnical sampling;
 - c) applying temporary tunnel safety procedures;
 - d) installing temporary shoring in order to stabilize the tunnel walls;
 - e) installing soil nails (soil nails average 14' long) throughout the tunnel;
 - f) applying Shotcrete to restore the entrance and stabilize the tunnel interior;
5. perform repairs to 27 bridges, including:
 - a) repairing or replacing bridge ties, caps, stringers, bents, guard timbers, chords, sills,
 - b) adding ballast and tamping bridge approaches;
 - c) repairing backwalls;
 - d) replacing or repair walkways;
 - e) replacing deck planks
6. acquire rolling stock (railroad cars) including:
 - a) up to ten flat cars;

- b) two passenger coaches; and
- c) one locomotive for use in Fort Bragg.

Work is proposed to be performed in the following locations:

- Willits Block Track Improvement: 7.4 miles of track between Willits (milepost 40) and Headwaters (milepost 32.6);
- Noyo Canyon Block Track Improvement: 29.1 miles of track between Glen Blair Junction (milepost 3.5) and Headwaters (milepost 32.6);
- Fort Bragg Block Track Improvement: 3.5 miles of track between Fort Bragg (milepost 0.0) and Glen Blair Junction (milepost 3.5).

Setting

The Mendocino Railway historically extended roughly 40 miles from the coastal city of Fort Bragg to the inland town of Willits. The first portion of the line is within the Coastal Zone and for most of the first 3.5 miles (between the Fort Bragg station and the Glen Blair station), the rail line is located directly adjacent to Pudding Creek, a coastal waterway that enters the Pacific Ocean through a small estuary immediately north of Fort Bragg. Along this stretch, the line is located within a riparian area between rural lands on the outskirts of Fort Bragg. From Glen Blair, the rail line passes over to the banks of the Noyo River, a larger coastal river that enters the sea in southern Fort Bragg. The line continues directly adjacent to the Noyo River through a largely inaccessible and undeveloped area of forest lands for roughly 30 miles before leaving the river and winding to the town of Willits. Since the partial collapse of a tunnel along the rail line in 2015, the rail line's use has been limited to two excursion trains: one that leaves from Fort Bragg and travels roughly 3.5 miles to Glen Blair and another, separate train that leaves Willits and travels roughly eight miles to Crowley before returning to Willits. The remaining 29 miles of the rail line have been out of service for nearly a decade.

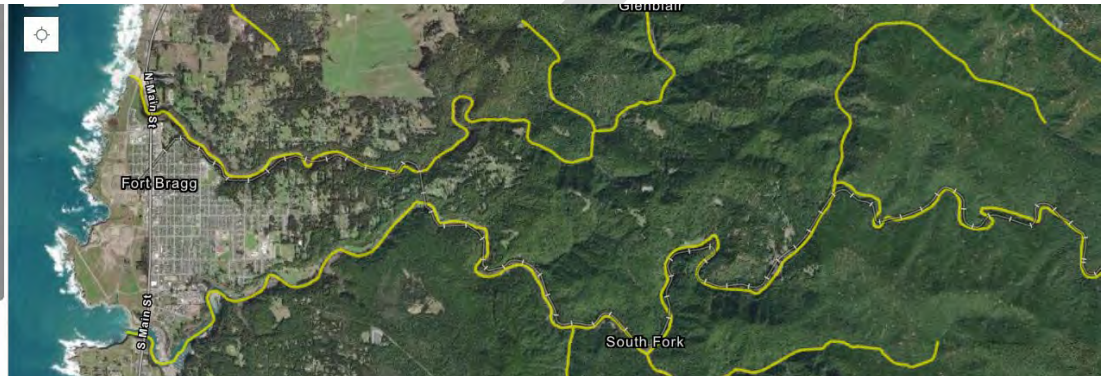
The lower reaches of Pudding Creek support and are designated as critical habitat for the tidewater goby, a fish species native to California that is listed as endangered under the federal Endangered Species Act.

As shown in the figures below, Noyo River, including the entire stretch adjacent to the rail line as well as the lower section that connects to the sea, is designated as critical habitat for two evolutionarily significant units of salmon in California, the California Coastal Chinook (listed as threatened under the federal Endangered Species Act) and Northern California Steelhead (listed as endangered under the California Endangered Species Act and threatened under the federal Endangered Species Act). In the figures below, the critical habitat is identified with green and yellow highlights of the relevant creek and river courses and the location of the rail line is noted with white marks perpendicular to the river course.

- ▼ Chinook Critical Habitat - Coast - NOAA [ds124] ...
- ▶ Coho Critical Habitat - Central Coast - NOAA [ds3015] ...
- ▶ California Coast Fall Chinook Salmon Range [ds1297] ...
- ▶ Tidewater Goby - Final Critical Habitat - USFWS [ds707] ...
- ▶ Northern Spotted Owl - Final Critical Habitat - USFWS [ds156] ...



- ▼ Steelhead Critical Habitat - Coast - NOAA [ds122] ...
- ▶ Chinook Critical Habitat - Coast - NOAA [ds124] ...
- ▶ Coho Critical Habitat - Central Coast - NOAA [ds3015] ...
- ▶ California Coast Fall Chinook Salmon Range [ds1297] ...
- ▶ Tidewater Goby - Final Critical Habitat - USFWS [ds707] ...
- ▶ Northern Spotted Owl - Final



Given its remote location within large areas of mostly undisturbed riparian and forest habitat, the area within which the rail line is located – in particular the roughly 29 miles that have been out of service since 2015 – are likely to support a variety of other sensitive and protected wildlife and plant species. The negative determination identified 12 such species protected under the Endangered Species Act. Species protected under California’s Endangered Species Act were not considered by FRA.

Reasonably Foreseeable Coastal Effects

Section 930.35(c) of the Coastal Zone Management Act’s federal consistency regulations establishes that a State agency may object to a Federal agency’s negative determination by asserting that “coastal effects are reasonably foreseeable” from the Federal agency’s activity. The term, “coastal effect” is defined under the CZMA regulations at title 15 CFR section 930.11(g) as the following:

...any reasonably foreseeable effect on any coastal use or resource resulting from a Federal agency activity.... Effects are not just environmental effects, but include effects on coastal uses. Effects include both direct effects which result from the activity and occur at the same time and place as the activity, and indirect (cumulative and secondary) effects which result from the activity and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects are effects resulting from the incremental impact of the federal action when added to other past, present, and reasonably foreseeable actions, regardless of what person(s) undertake(s) such actions.

FRA’s proposed loan of approximately \$31 million to Mendocino Railway for the Railroad Rehabilitation Project described above would have reasonably foreseeable coastal effects. The federal agency activity consisting of the proposed loan that will fund the

Project has the reasonably foreseeable potential to affect coastal resources in a variety of ways, including by degrading water quality and the biological productivity of coastal waters, streams and estuaries; putting at risk sensitive coastal species and habitats due to degraded water quality and hazardous materials; adversely affecting wildlife movement and habitat use through the installation of fencing along the rail line from Fort Bragg to Willits; and disturbing wildlife and habitats due to the noise, lights and vibrations that would be generated during train operation. The foreseeable effects on water quality from the federal agency activity are detailed further below.

Water Quality

Several elements of the federal agency activity have the potential to adversely affect coastal water quality. These include: (1) discharge and leaching of environmental toxins such as arsenic and copper from degraded and replacement railroad ties, power poles, and other preservative-treated wooden components; (2) elevated sedimentation and turbidity in Pudding Creek, Noyo River, and connected coastal waters resulting from erosion of soil disturbed by construction activities adjacent to these waterways; (3) deposition of air pollutants from train engine operation and subsequent discharge into coastal waters – including Pudding Creek and Noyo River – during rainfall events; (4) runoff of herbicides applied within rail right-of-way to control vegetation; and (5) unintentional release of hazardous materials and waste such as diesel fuel, oil, municipal garbage, or other freight cargo as a result of potential derailment or construction spills.

Railroad Ties

The proposed Project includes the replacement of an estimated 32,100 railroad ties from areas directly adjacent to Pudding Creek and Noyo River. The negative determination acknowledges that the existing ties are treated with the wood preservative chromated copper arsenate (CCA). As noted by Morais et al (2021)⁴ in the International Journal of Environmental Research and Public Health:

CCA water-borne solution used to be widely used to make timber highly resistant to pests and fungi, in particular, wood products designed for outdoor use. Nowadays, CCA is a restricted chemical product in most countries, since potential environmental and health risks were reported due to dermal contact with CCA residues from treated structures and the surrounding soil, as well as the contamination of soils... International efforts have been dedicated to the treatment of materials impregnated with CCA, however not only does some reuse of CCA-treated timber still occur, but also existing structures are leaking the toxic compounds into the environment, with impacts on the environment and animal and human health...

Wood products treated with CCA were found to have an adverse impact on the environment and human health, due to leaching and accumulation of these metals/metalloid, especially arsenic, from the wood into the environment (Figure 1). Decaying materials leach them into soils and waters, which may negatively impact food production or farming, and animal and human health. The affected

⁴ Morais S, Fonseca H, Oliveira SMR, Oliveira H, Gupta VK, Sharma B, de Lourdes Pereira M. (2021) Environmental and Health Hazards of Chromated Copper Arsenate-Treated Wood: A Review. Int J Environ Res Public Health.

tissues may include the brain, lungs, liver, stomach, spleen, kidneys, and reproductive organs.

The proposed removal and replacement of approximately 32,000 CCA treated railroad ties would have coastal effects in, at least, two ways. First, the removal of aged and failing CCA-treated railroad ties and other preservative-treated timber such as bridge decking in areas directly over or adjacent to waterbodies is very likely to result in the discharge of treated-wood pieces, fragments, and sawdust into coastal waters. Because of their large surface to volume area, sawdust and small fragments of treated wood entering the water contribute a disproportionately large amount to the leaching of preservative chemicals. Although the sawdust, wood pieces and fragments broken off of and released from each tie during its removal is expected to be relatively small, given the very large number of railroad ties proposed to be removed – nearly 2,900 tons – this debris is expected to be cumulatively significant. The significant rainfall the project area experiences – up to four feet per year on average – and the difficulty in containing and collecting small debris means that much of the treated-wood debris is expected to flow into the creek and river located directly adjacent to the railroad line.

Although the negative determination describes several best management practices (BMPs) that Mendocino Railway is presumed to implement to minimize the generation and release of construction debris, no mandate or oversight for implementation of these BMPs is provided and none of the BMPs would be expected to be particularly effective in addressing the identified water quality issues even if Mendocino Railway did implement them. For example, measures such as “Railroad will ensure that all work is done within existing railroad right-of-way;” “Ties to be marked by experienced Track Foreman or General Manager familiar with the track and its operating requirements;” “Ties to be received in Bundles and Unloaded in railroad ROW;” “Ties to be individually distributed to spot of installation;” and “Ties to be replaced by the contractor (Tie Inserter, Backhoe)” do not appear relevant to preventing the generation and movement into adjacent waterways of debris from treated timber removal efforts. Even the two identified BMPs that would be more relevant, “Installation of straw wattles;” and “Covering disturbed surfaces with organic matter to prevent soils runoff;” are likely to have limited efficacy – even if properly installed and maintained – considering the scope, duration, location and conditions of the proposed project. Furthermore, these measures would not prevent leaching of preservative chemicals, such as arsenic, from the debris and into the adjacent waterbodies.

Discharge of CCA chemicals and treated-wood debris into Pudding Creek and Noyo River would not only introduce into these water bodies material that would degrade their water quality – including downstream in the coastal zone – but would also adversely affect the aquatic life within them. Coastal species such as Coastal Chinook salmon, Northern California steelhead, and tidewater goby – for which Noyo River and Pudding Creek provide National Marine Fisheries Service and U.S. Fish and Wildlife Service-designated critical habitat, respectively – are known to be sensitive to these chemicals at a variety of life stages, even at low concentrations.

In addition to the generation and release of construction debris with high levels of

biological toxins, the proposed installation of an estimated 32,100 replacement ties treated with CCA or similar copper- and arsenic-containing wood preservatives would also have a substantial adverse impact on coastal water quality and coastal aquatic and marine species⁵. Leaching of toxic wood-preservative chemicals from CCA or similarly treated timbers into adjacent soils and waterbodies is a well-recognized adverse environmental impact. As noted by Hingston et al (2001)⁶:

The toxicity of copper (Cu), chromium (Cr) and arsenic (As) to aquatic organisms is well recorded (Bodek et al., 1988a, Bodek et al., 1988b, Fleming & Trevors, 1989, Wong & Chang, 1991, Havens, 1994, Nriagu, 1994a, Nriagu, 1994b, Walley et al., 1996a, Walley et al., 1996b), and all are listed as priority pollutants by the United States Environmental Protection Agency (Weis et al., 1992, Weis & Weis, 1995).

Studies have been conducted exposing marine organisms to CCA-treated wood or leachate waters and deleterious effects have been shown against a range of aquatic organisms (Weis et al., 1991, Weis et al., 1992. Criticism of this work focused on the unrealistically high ratio between wood and water volume, which allowed the metal concentrations to build up to toxic levels (Albuquerque & Cragg, 1995a, Albuquerque & Cragg, 1995b, Breslin & Adler-Ivanbrook, 1998). Further work has suggested a decrease in biodiversity close to CCA-treated marine structures, and elevated levels of metal elements in benthic organisms (Weis & Weis, 1994a, Weis & Weis, 1994b, Weis & Weis, 1995, Weis & Weis, 1996, Albuquerque & Cragg, 1995a, Albuquerque & Cragg, 1995b, Wendt et al., 1996, Cragg & Eaton, 1997, Weis et al., 1998).

One of the major problems is that due to inadequate understanding of long-term leaching rates, recommended preservative loading is presently set at very high levels. For example, common treated timbers such as Scots pine and Douglas fir have densities between 500 and 550 kg m⁻³ (Desch and Dinwoodie, 1996). Therefore, with a salt loading of up to 50 kg m⁻³ recommended (BSI, 1989, Eaton & Hale, 1993), the preservative may represent around 10% of the final timber weight.

In other words, CCA-treated timbers contain significant amounts of substances that are known to be toxic to aquatic and marine life and that leach out due to exposure to rainfall. While the amount and concentration of these toxins may vary based on the specific timber product and application – from the 550 kg of CCA compound per cubic meter of wood cited above to the much lower 6.4 kg per cubic meter noted by

⁵ Although largely discontinued, if the railroad ties were instead replaced with creosote-treated timbers, the environmental and water quality effects would be significantly worse due to the toxic qualities of creosote and PAHs and the high rate of leaching known to occur (estimated at up to 35% over the service life of a railroad tie, based on a study cited by the Study cited by the Railway Tie Association:

https://www.rta.org/assets/docs/RTASponsoredResearch/Environmental/creosote%20tie%20evaluation%20article%20_4_.pdf

⁶ <https://www.soils.org/about-soils/contaminants/creosote>

Townsend et al., 2004⁷ - even assuming the lower of these concentrations, the 32,000 railroad ties proposed to be installed as part of the project would contain approximately 7.5 tons of arsenic and roughly another four tons of copper. As shown above, these quantities may increase up to nearly 100-fold if higher concentrations of CCA are used for the railroad ties in order to extend their service life given the wet environment of the rail line.

A growing body of research is demonstrating that CCA and other toxic wood preservative compounds leach into the nearby environment at rates significant enough to have adverse effects. This is also true of similar treated-wood preservatives such as Ammoniacal Copper Zinc Arsenate (ACZA) that may be used as an alternative to CCA. As noted by Townsend et al (2001):

Eleven of 13 samples of CCA-treated dimensional lumber exceeded the US EPA's toxicity characteristic (TC) threshold for arsenic (5 mg/L). If un-weathered arsenic-treated wood were not otherwise excluded from the definition of hazardous waste, it frequently would require management as such. When extracted with simulated rainwater (SPLP), 9 of the 13 samples leached arsenic at concentrations above 5 mg/L. When extracted with simulated rainwater (SPLP), 9 of the 13 samples leached arsenic at concentrations above 5 mg/L. Metal leachability tended to increase with decreasing particle size and at pH extremes. All three metals leached above the drinking water standards thus possibly posing a potential risk to groundwater. Arsenic is a major concern from a disposal point of view with respect to ground water quality.

Specific research carried out on rail lines with modest levels of use (ten or less per day) within an undeveloped forest environment⁸ further demonstrates that the substances being released from both the rail line itself and the train operations accumulate in nearby soils, waterbodies and sediments, where they affect plant and animal life:

Potential sources of contaminants associated with railroads include diesel exhaust; abrasion of brakes, wheels, and rails; dust from transport of minerals (e.g., coal), ores, and slag; and treated railroad ties (also known as sleepers). Infrastructure associated with rail-roads (e.g., bridges, culverts, power lines, sign posts) also has potential to contribute pollutants to waterways. Persistent environmental contaminants anticipated to be elevated in proximity to rail lines include polyaromatic hydrocarbons (PAHs) and elements such as cadmium (Cd), chromium (Cr), and lead (Pb) (Burkhardt et al. 2008). Previous studies have documented elevated concentrations of PAHs (Wan 1994; Wilkomirski et al. 2011) and heavy metals (Wilkomirski et al. 2011; Chen et al. 2014) in water, soil, and/or biota associated with railroads. Although the risks

⁷ Timothy Townsend, Thabet Tolaymat, Helena Solo-Gabriele, Brajesh Dubey, Kristin Stook, Lakmini Wadanambi (2004) Leaching of CCA-treated wood: implications for waste disposal, *Journal of Hazardous Materials*, Volume 114, Issues 1–3,

⁸ Levensgood, J. M., Heske, E. J., Wilkins, P. M., & Scott, J. W. (2015). Polyaromatic hydrocarbons and elements in sediments associated with a suburban railway. *Environmental Monitoring and Assessment*, 187, 1–12

of contaminant exposure to fish and wildlife living in close proximity to railroads have not been defined, the health effects of these chemicals are well documented. Aquatic biota, including fish and sediment-dwelling invertebrates, as well as early-life-stage amphibians, would be particularly sensitive to contaminants such as PAHs and heavy metals entering the water.

This research showed that concentrations of both arsenic and PAHs were greatest in sediments collected downstream of the railroad and that sampling and analysis demonstrated a clear “railroad effect” for a variety of chemicals and compounds known to be environmental toxins. In the case of the proposed project, this railroad effect would affect both Pudding Creek and the Noyo River, given that the rail line is located directly adjacent to one or the other for nearly its entire 40 mile length and will be activated for the entire stretch for the first time nearly a decade.

As previously noted, these water bodies are designated as critical habitat for two coastal salmon populations protected under the California and federal Endangered Species Acts and for the tidewater goby, federally-listed as endangered. In addition to the coastal effect of degrading water quality within these coastal watercourses due to the leaching and discharge of toxic substances, loss or damage to these coastal species and their coastal habitats due to the presence of these substances is also reasonably foreseeable. In designating its critical habitat within Pudding Creek, the U.S. Fish and Wildlife Service particularly identified as threats to the tidewater goby upstream water quality, point and non-point source pollution and coastal development projects that result in the loss or alteration of coastal wetland habitat. Similarly, water quality was identified as an essential factor for the persistence and recovery of Chinook salmon and steelhead within Noyo River. By adversely affecting water quality, the proposed Project would adversely affect these coastal species.

Finally, the Categorical Exclusion Worksheet does not adequately assure that the final disposal of the CCA-treated railway ties will not have effects on coastal resources. The Worksheet simply states that “MR has adopted and will continue to employ, BMPs to ensure that old ties will be collected and placed in a dumpster for disposal and properly disposed of as hazardous waste.” FRA does not specify what measures Mendocino Railway will take to dispose of the used ties or where it will dispose of the ties. There could be further leaching of CCA in the coastal zone if Mendocino Railway does not adequately dispose of the ties consistent with relevant hazardous waste laws, which could have coastal effects on water quality as detailed above. Without specific conditional language detailing exact disposal requirements and enforcement mechanisms to ensure Mendocino Railway will comply with those requirements, the Categorical Exclusion Worksheet fails to demonstrate that the RRIF funds for the Project will not have effects on California’s coastal resources.

Sediment and Turbidity

The proposed Project calls for extensive construction activities adjacent to a coastal creek and river. These activities involve ground disturbance through the use of a backhoe to extract and replace railroad ties, the excavation of the partially collapsed railroad tunnel and subsequent installation of replacement supports and reinforcement, the creation and installation of four railroad sidings (shorter lengths of

rail line constructed parallel to the main line), installation of electrical utilities - which may involve extensive subsurface drilling to install up to 1,600 power poles (assuming the standard spacing of 40 poles per mile), construction or clearing of maintenance walkways and paths along the entire railroad length and installation of footings and supports for the security fencing and cameras proposed to be installed along the line from Fort Bragg to Willits.

Given the heavy rainfall that can occur within the project area and absence of commitment by Mendocino Railway or FRA for ground-disturbing work to be carried out only during drier months, water-borne erosion of excavated and disturbed sediments is very likely to occur. While the negative determination notes that a limited number of basic erosion-control BMPs would be used – placement of straw wattles and distribution of organic matter over disturbed surfaces – given the amount of proposed ground disturbance and close-proximity of the construction areas to the open waters and riparian habitat of Pudding Creek and Noyo River, flow of substantial amounts of sediment into these watercourses is reasonably foreseeable.

Depending on the levels of coarse and fine material within it, this sediment would generate turbidity plumes and/or fill pools and aquatic refugia with heavy material. Such effects would reduce coastal water quality downstream, degrade or damage in-stream and riparian habitat, and smother aquatic species. Such species may include sensitive coastal fish such as salmon that may be present in the project area during construction or the small forage species these fish rely on.

Air Pollutants

Research has demonstrated that airborne pollution generated by train engines and train operation settles within nearby areas and washes into wetlands and water bodies during storm events. As identified by Lucas et al (2017)⁹,

The main pollutants emitted from the diesel-powered locomotives are carbon dioxide (CO₂), methane (CH₄), carbon monoxide (CO), nitrogen oxides (NO_x), nitrous oxide (N₂O), sulphur dioxide (SO₂), non-methane volatile organic compounds (NMVOC), particulate matter (PM) and hydrocarbon (HC) (Plakhotnik et al. 2005; Cheng and Yan 2011). Some studies reported higher levels of PM₁₀ (where the subscript indicates the largest diameter of the particles in microns) and PM_{2.5} near railways, higher than the standard level allowed (Beychok 2011) for the USA, Europe, and Asia (Park and Ha 2008; Kamani et al. 2014).

...

In addition, high concentrations of PAHs were found in the aerial parts of plant species near the railway and up to distances of 30 m from the railway (Malawaka and Wilkomirski 2001; Wilkomirski et al. 2011). On railways, in particular, the biodegradation of PAHs and herbicides is extremely low and can persist over decades (Wilkomirski et al. 2012)

Levengood et al. (2015) documented high concentrations of PAHs and heavy

⁹ Lucas, P.S., de Carvalho, R.G., Grilo, C. (2017). Railway Disturbances on Wildlife: Types, Effects, and Mitigation Measures. In: Borda-de-Água, L., Barrientos, R., Beja, P., Pereira, H. (eds) Railway Ecology.

metals in waterways bisected or bordered by railways. They showed that the PAH concentration was higher downstream than upstream of the railway (Levengood et al. 2015). They also found that phenanthrene and dibenzo (a, h) anthracene (a PAH element) concentrations at some sites represented a risk to aquatic life...

Although only seven round-trip trains per day are currently proposed to make use of the route between Fort Bragg and Willits (based on the information provided in the negative determination), Mendocino Railway does not have engines equipped with modern pollution control equipment and instead relies on older engines that burn used motor oil as a fuel¹⁰. As such, deposition of airborne pollutants into the environment surrounding the train line is likely to be exacerbated. Given that much of this environment includes the riparian habitat of Pudding Creek and Noyo River, these pollutants are expected to be deposited and wash into these coastal water systems, further degrading water quality and posing a risk to coastal species.

Herbicides

A significant oversight of the negative determination is its lack of acknowledgement of the potential impacts and anticipated activities associated with operation of the rail line that is proposed to be rehabilitated and brought into service as a result of the FRA loan and project. Among these anticipated activities is the maintenance of the rail line and right-of-way that would need to occur to ensure safe operation of the train. Given the location of the rail line within the dense forests and riparian valleys of coastal northern California, track maintenance is likely to include management and removal of vegetation, especially along the roughly 28 miles of line that has been out of service for nearly a decade. To carry out this work, herbicide is likely to be used. Extensive and ongoing use of herbicide within the right-of-way (much of which is located a matter of feet from Noyo River and Pudding Creek) would introduce a further source of degradation to the water quality of these waterbodies and downstream coastal areas. Although some herbicides are known to present greater environmental risks than others, most of the commonly used products for large-scale maintenance activities such as a 40 mile long rail line are powerful and can pose a particular risk to aquatic species, invertebrates and amphibians.

In evaluating this issue, Lucas et al (2017) notes that

For herbicides, Schweinsberg et al. (1999) discovered that in Germany before the 1990s, a much higher total amount of these compounds were applied on railway tracks than in agriculture. Recently, Vo et al. (2015) showed that many herbicides applied during the operation of the railway are at concentrations that are lethal to most of the aquatic fauna, particularly fish populations; they indicate that compounds such as Imazapyr or Diuron concentrations can take 6 and 48 months, respectively, to drop below 50% of their original levels.

¹⁰ "Originally designed to burn "bunker c" oil, which is a thick slurry of oil that had to be pre-heated to thin it enough to be fired. Today, #45 burns recycled motor oil." <https://www.skunktrain.com/willits-history/>

Accordingly, use of herbicide along the train line and its subsequent runoff into Noyo River and Pudding Creek is likely to adversely affect coastal water quality and may reduce the biological productivity of coastal waters.

Spills

Train derailments are relatively common in the United States, with an estimated 1,000 to 3,000 incidents occurring each year. Based on a recent Time Magazine article¹¹, the FRA reported an average of 1,475 train derailments per year between 2005 and 2021. This equates to roughly four per day. Although derailment risk increases relative to total rail miles traveled – suggesting a low risk from the 560 total miles per day (seven round trips on the 40 mile line) proposed by Mendocino Railway upon completion of the proposed project – not all rail miles carry the same level of risk. For example, rail lines with extensive curves in rugged terrain subject to hazards such as tree falls, tunnel collapses and landslides would have a higher risk of derailment than straight lines through flat country. Mendocino Railway advertises itself as the “crookedest railroad in the world” with a total of 381 curves in its 40 mile length. In addition, its recent tunnel failure and location next to active watercourses suggests a risk of geologic hazards. In fact, the Mendocino Railway’s Skunk Train derailed twice in 2015 with the first on March 24, 2015, due to a “broken, or fractured, rail,”¹² and the second on August 21, 2015, leading to a situation where the passengers had to finish the excursion rail ride by foot back to the station.¹³ The Mendocino Railway train also transits through extensive forest areas that carry a risk and history of tree falls. As such, derailment is a greater risk on this line than would be indicated by its short length alone.

If a derailment were to occur along the rail line, the effect on the environment could be significant, due to the line’s location in close proximity to protected riparian areas for the majority of its length. A derailment could result in deposition of the train and/or its cargo into Noyo River or Pudding Creek. An accident of this nature would negatively affect water quality and aquatic life at the site and downstream. In addition to fuel and oil products, a spill could also discharge the freight loads proposed to be carried by Mendocino Railway (based on information in the negative determination), aggregate and municipal waste. Discharge of either of these materials into the creek or river would also generate effects far downstream, potentially to the coast and ocean, given the remote location of the line and expected difficulty completing an effective clean-up in a timely manner.

Conclusion

When considered comprehensively, the proposed project is likely to affect coastal water quality and associated coastal aquatic and marine species.

Conclusion

¹¹ <https://time.com/6260906/train-derailmentments-how-common/>

¹² <https://www.ukiahdailyjournal.com/2015/03/24/skunk-train-derails-back-on-track-hours-later/>

¹³ <https://www.willitsnews.com/2015/08/21/minor-train-derailment-on-e-valley-st/>

With the Commission's objection to the negative determination and assertion of coastal effects, we look forward to FRA's timely submittal of a consistency determination for the proposed project to address the coastal effects identified herein and other effects to be identified as the Commission gathers more complete details of the full scope of the Project. If you have any questions or would like to discuss preparation and submittal of this consistency determination please contact Cassidy Teufel at Cassidy.Teufel@coastal.ca.gov

Sincerely,

[unsigned]

Kate Huckelbridge, PhD
Executive Director

DRAFT