

**UNITED STATES OF AMERICA
BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION**

)	
Gas Transmission Northwest, LLC)	Docket No. CP22-2-000
)	

**JOINT MOTION TO INTERVENE AND PROTEST BY THE
STATES OF WASHINGTON, OREGON AND CALIFORNIA**

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INTRODUCTION

The Attorneys General for three of the four States the GTN Xpress Project intends to serve hereby move to intervene and request the Commission deny the application. This Project proposes to expand supply of methane gas in a region that is rapidly transitioning off fossil fuels and reducing greenhouse gas emissions. There is insufficient evidence the Project serves a public necessity or the public interest. Instead, the evidence indicates that existing customers will subsidize the expansion, and the Project will primarily serve the interests of Canadian gas producers in gaining market share, not the needs of American consumers. The Project conflicts with state laws to reduce emissions and transition to renewable energy, and it will worsen environmental harms from climate change by locking in over 3.47 million metric tons of Carbon Dioxide equivalent (CO₂e) emissions per year for at least the next thirty years. For these and other reasons, the Commission should find the project is improperly subsidized, does not serve a public necessity, and is not in the public interest.

FACTUAL BACKGROUND

A. Washington, Oregon, and California Have Strong Interests in Reducing Reliance on Methane Gas to Protect Their Residents From Climate Change.

Climate change is causing “[w]idespread, pervasive impacts to ecosystems, people, settlements, and infrastructure.” Hans-O. Portner, ET AL., *Summary for Policymakers*, IPCC, 9 (2022).¹ These impacts include “heat-related human mortality . . . [o]bserved increases in areas burned by wildfires [and] [a]dverse impacts from tropical cyclones, with related losses and damages . . . Increasing weather and climate extreme

¹ https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf.

events have exposed millions of people to acute food insecurity and reduced water security.” *Id.* Climate change is causing mass extinctions of species and “increasingly irreversible” damage to ecosystems. *Id.* While many losses are unavoidable, actions to limit global warming to close to 1.5° Celsius in the next twenty years “would substantially reduce projected losses and damages related to climate change in human systems and ecosystems.” *Id.* at 13.

Climate change is no stranger to Washington, Oregon, and California. Hotter, drier summers make forests more vulnerable to pests and disease and lead to more frequent and severe wildfire in the region. Climate change “is likely to more than double the area in the Northwest burned by forest fires during an average year by the end of the 21st century.” ENV. PROT. AGENCY, *What Climate Change Means for Washington* (2016).² Warmer winters are reducing mountain snowpack – a critical source of drinking water and irrigation water for agriculture. *See id.* Washington produces two-thirds of the nation’s supply of apples, but global warming of 1.5°C will cause a twenty-three percent decline in summer streamflow, resulting in irrigation shortages for this and other crops. *See id.*; WASH. REV. CODE § 70A.45.020, Intent - 2020 c 79 (2020). Ocean acidification threatens marine ecosystems, including fisheries and shellfish industries critical to local economies and culture. *See id.* These are just a few of the ways climate change already affects the States.

To protect their citizens, economies, and way of life, State legislatures have prioritized actions to reduce emissions and avoid the most catastrophic impacts of climate

²<https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-wa.pdf>; *See also* ENV. PROT. AGENCY, *What Climate Change Means for Oregon* (2016), <https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-or.pdf>.

change. In Washington, the legislature found that avoiding warming of 1.5°C “is possible only if global greenhouse gas emissions start to decline precipitously, and as soon as possible,” across all sectors of the economy. *See* WASH. REV. CODE § 70A.45.020, Intent-2020 c 79(7). Washington has set incremental limits on statewide emissions, which by 2050 will be 95 percent below 1990 levels. § 70A.45.020(1). In the electric sector, all retail sales of electricity to Washington customers must be greenhouse gas neutral by 2030. § 19.405.040 (2019). By 2045, retail electricity must be 100 percent renewable. § 19.405.050 (2019). Other sectors also must cap emissions and reduce them over time, consistent with Washington’s emission limits. § 70A.65.060 (2021). For buildings, Washington code will restrict the use of methane or other fossil fuels for HVAC systems in new buildings beginning July 1, 2023, *see* WASH. ADMIN. CODE § 51-11C-40314 (2023), and the Washington Department of Commerce has set energy performance standards to reduce energy use in large buildings, *see* WASH. ADMIN. CODE § 194-50 (implementing Washington State Energy Performance Standard, WASH. REV. CODE § 19.27A.210 (2021)).

Oregon has similarly adopted laws and programs to significantly reduce its greenhouse gas emissions. Oregon has required its major investor-owned utilities, PGE and PacifiCorp, to transition to 100 percent renewable electricity by 2040. OR. REV. STAT. § 469A.410 (2021). Those utilities represent 87.8 percent of greenhouse gases that electricity suppliers emitted as of 2020. *See* Oregon Department of Environmental Quality, *Greenhouse Gas Emissions from Electricity Use 2010-2020*, (15,065,072 metric tons of CO₂e from PGE and PacifiCorp compared to a statewide total of 17,155,607).³

³ <https://www.oregon.gov/deq/ghgp/Documents/ghgElectricityEms.xlsx>

Oregon has also adopted regulations requiring reductions in greenhouse gas emissions from fossil fuels used throughout Oregon in transportation, residential, commercial and industrial settings (for purposes other than electricity generation). OR. ADMIN. R. Ch. 340, Div. 271. Those regulations impose a declining cap that will require an 89 percent reduction in greenhouse gas emissions from those sources by 2050. The overall cap declines from 28,081,335 metric tons of CO₂e in 2022 to 15,021,080 in 2035 and to 3,004,216 in 2050. OR. ADMIN. R. 340-271-9000 (2021), Table 2.

California also has enacted numerous climate policies and programs. In 2006, the legislature required California to reduce its overall greenhouse gas emissions to 1990 levels by 2020 and 40 percent below 1990 levels by 2030. *See* California Global Warming Solutions Act of 2006, AB-32, § 1 (2006). To meet the 2030 reductions, the California Air Resources Board established a Cap and Trade program and developed a Climate Change Scoping Plan that outlines the state's approach to achieving greenhouse gas reduction targets. *See* CAL. CODE REGS., tit. 7, § 95800, *et seq.*; CAL. AIR RES. BD., *AB 32 Climate Change Scoping Plan*.⁴ The Draft 2022 Scoping Plan Update includes the goal of carbon neutrality by 2045. *See* CAL. AIR RES. BD., Draft 2022 Scoping Plan Update (May 10, 2022).⁵ Other recent laws and policies include Senate Bill 100 and Senate Bill 350, requiring the State to procure 60 percent of all electricity from renewable sources by 2030 and 100 percent carbon-free sources by 2045, and the Green Building Standard, providing energy efficiency standards for new construction and retrofitting of existing buildings.⁶

⁴ <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan>.

⁵ <https://ww2.arb.ca.gov/sites/default/files/2022-05/2022-draft-sp.pdf>.

⁶ *See* California Renewables Portfolio Standard Program: Emissions of Greenhouse Gasses, SB-100 (2018); Clean Energy and Pollution Reduction Act of 2015, SB-350 (2015); CAL. ENERGY COMM'N, *Renewables*

These laws and policies will lead to “significant declines in the region’s gas consumption.” *See* Ex. C, Energy Futures Report at 39, *see also id.* at 49-57. Electric generation accounts for one-third of the region’s gas consumption, but Washington, Oregon, and California’s clean electricity laws will require electricity generators to limit, reduce, and retire their methane gas-fired power plants to achieve those limits. *See id.* at 54. This alone “indicate[s] significant reductions in gas fired generation . . . and the reductions in gas consumption are likely to exceed projected growth . . . cited by GTN in the application.” *Id.* at 56. Further reductions in regional gas demand are possible as trends in “customer choice and market dynamics, the potential for existing customers to electrify, [and] the potential for local or state governments to limit or prohibit gas service for new construction.” *Id.* at 46; *see also* Ex. A at 5-9 (listing laws limiting or prohibiting new gas service). Governments and companies are developing renewable energy projects to replace fossil fuels in all three States. *See id.* at 9-12.

B. GTN Plans to Increase Methane Supply in the Pacific Northwest.

In November 2019, GTN announced a \$335 million project, GTN Xpress, to “both increase the reliability of existing transportation service and provide up to 250,000 [Dekatherms per day (“Dth/d”)] of additional firm transportation service.” *See* Ex. D, TC Pipelines Press Release (Nov. 1, 2019). GTN Xpress would “enhance market access and reliability for growing Western Canadian Sedimentary Basin (WCSB) supplies.” *Id.* at 79. The Project would replace horsepower at existing compressor stations, which would cover “more than three-quarters of the project cost [\$251 million]” and be recovered entirely from existing ratepayers. *Id.* at 80. GTN would then upgrade those same

Portfolio Standard – RPS, <https://www.energy.ca.gov/programs-and-topics/programs/renewables-portfolio-standard>; CAL. GREEN BUILDING STANDARDS CODE, tit. 24, part 11 (2019).

compressor stations to increase capacity. *See* Application at 6-7. GTN presented the project to the Commission piecemeal, first in March 2020 with notices of routine replacements of its compressor units, then in October 2021 with a request to expand capacity by upgrading those same units.

In March 2020, GTN filed three “Advance Notification[s] of Natural Gas Facilities Replacement Pursuant to Section 18 CFR 2.55(b)(1)(iii)” with the Commission to replace compressor units at the Athol Station located in Idaho, the Starbuck Station in Washington, and the Kent Station in Oregon. *See* Notification, Athol Compressor Station, Dkt. CP20-82-000, (Mar. 10, 2020); Notification, Kent Compressor Station, Dkt. CP20-85-000, (Mar. 10, 2020); Notification, Starbuck Compressor Station, Dkt. CP20-86-000, (Mar. 10, 2020). As GTN previewed in its press release announcing the expansion, the total cost of these three replacements was \$251 million. *See id.*; Ex. B, Declaration of Gregory Lander at 15. GTN claimed 18 C.F.R. § 2.55(b) justified the replacements. *See id.* Section 2.55(b) permits replacement of deteriorated or obsolete facilities that “will have a substantially equivalent designed delivery capacity.” It does not authorize replacements that create incremental capacity. 18 C.F.R. § 157.202(b)(2)(i) (1982).

GTN told the Commission the replacements were necessary “to prevent a potential reliability risk to the system.” *See* Notification, Athol Compressor Station, Dkt. CP20-82-000, (Mar. 10, 2020); Notification, Kent Compressor Station, Dkt. CP20-85-000, (Mar. 10, 2020); Notification, Starbuck Compressor Station, Dkt. CP20-86-000, (Mar. 10, 2020). GTN stated the new units “would be site rated at the existing certificated ISO horsepower of 14,300.” *Id.* GTN further claimed “[t]he replacement unit configuration is the nearest reliable size available to the unit being replaced” and, “with

the controls being put in place[,] will have a substantially equivalent designed delivery capacity.” *Id.* GTN did not disclose that the new units were substantially larger than the old units (23,470 compared to 14,300 horsepower), that it intended to use the new compressors to expand capacity, or that it already contracted to sell the expanded capacity the new units would create. *Id.* GTN completed the replacements in October 2021. *See* Mot. for Leave to File Answer to Protests, and Answer to Protests and Opposition to Late Interventions at 7 (Dec. 16, 2021).

Also in October 2021, GTN filed its current application to expand capacity, which it largely plans to do via software upgrade on the recently-replaced compressor units at Athol, Kent, and Starbuck. *See* Application at 6-7. Though GTN presented the project to investors as “enhanc[ing] market access” for Canadian producers, Ex. D at 79, it told the Commission the project was developed to serve growing load demand in the Pacific Northwest, Application at 3-4. Additionally, while GTN told investors the project would increase capacity by 250,000 Dth/d at a cost of \$335 million, its application before the Commission seeks authorization only for 150,000 Dth/d at a cost of \$75.1 million. *Compare* Ex. D (Nov. 1, 2019 Press Release) *with* Application 6-8.⁷ GTN claims that the other 100,000 Dth/d would be provided using “existing capacity.” *Id.* at 8 n.6. GTN has not explained how it increased capacity on its existing system by 100,000 Dth/d without modifying facilities. *See* Mot. to Intervene Out-of-Time and Protest of Puget Sound Energy, Inc. at 4-5 (Nov. 17, 2021).

For the 150,000 Dth/d increase in GTN’s current application, GTN summarized three precedent agreements:

⁷ The remaining \$251 million project cost was for the 2020 Advance Notification replacements, but GTN seeks to charge existing ratepayers for this cost. *See supra* p.6.

Project Shipper	Transportation Demand of Project Capacity (Dth/d)	Primary Term (Years)	Projected End Use
Cascade Natural Gas (“Cascade”)	20,000	31	Residential, Commercial, & Industrial Uses
Intermountain Gas Company (“Intermountain”)	79,000	30	Residential, Commercial, & Industrial Uses
Tourmaline Oil Marketing Corp. (“Tourmaline”)	51,000	33	West Coast Natural Gas Markets

See Application at 9. GTN did not disclose the negotiated rates each project shipper would pay for the new capacity, but requested to roll in the costs of the expansion into existing rates. *See id.* at 13-15.

MOTION TO INTERVENE

The Commission should grant the motion to intervene by the Attorneys General of Washington, Oregon, and California (collectively, the States) because GTN Xpress directly and adversely affects State interests. Rule 214 permits intervention where the movant files a timely motion and “has or represents an interest which may be directly affected by the outcome of the proceeding” or “the movant’s participation is in the public interest.” 18 C.F.R. § 385.214 (2008). Motions to intervene on environmental grounds are timely if filed during the comment period on Draft Environmental Impact Statement. *See* 18 C.F.R. §§ 380.10(a)(1) (2006), 157.10(a)(2) (2003).

The States have an urgent and compelling interest in reducing air pollution and protecting the environment in their territory, especially in controlling greenhouse gas emissions that cause climate change. Rising sea levels threaten the States’ collective

1,293 miles of shoreline.⁸ Extreme drought and heat are turning the State forests into tinderboxes. Lost mountain snowpack threatens the water supply of millions of State residents. *See supra* pp.1-2. Given these wide-ranging threats, it is “well settled that the states have a legitimate interest in combating the adverse effects of climate change on their residents.” *Am. Fuel & Petrochemical Mfrs v. O’Keeffe*, 903 F.3d 903, 913 (9th Cir. 2018) (citing *Mass. v. EPA*, 549 U.S. 497, 522–23 (2007)).

GTN Xpress directly harms the States’ interest in fighting climate change, reducing air pollution, protecting their natural resources, and preserving their citizens’ health and welfare. *See* 18 C.F.R. § 385.214(b)(2)(ii). State and local laws seeking to protect these interests require emission reductions and replacing fossil fuels with renewable energy. *See supra* pp. 2-4. Contrary to these laws, GTN proposes to increase emissions and lock in reliance on methane for at least another thirty years. *See* Application at 9. The project also threatens consumer interests, since increasing methane gas infrastructure during this transition will result in costly stranded assets for ratepayers. *See infra* pp. 17-19. Doubling the capacity of the compressor stations will increase noxious pollutants like ozone and PM 2.5 in nearby communities, some of which are already overburdened by pollution. *See* Ex. H, Environmental Health Disparities Maps; Draft Environmental Impact Statement, 4-35 – 4-40 (June 30, 2022) (“Draft EIS”).

The States’ participation also is in the public interest. *See* 18 C.F.R. § 385.214(b)(2)(iii). The States represent the public and consumers in three of the four States that GTN serves with this project. Two compressor stations that the project will expand are in Washington and Oregon. The States are responsible for addressing the

⁸ Janice Cheryl Beaver, *CRS Report for Congress: U.S. International Borders: Brief Facts* (Nov. 9, 2006), THE LIBR. OF CONG., <https://sgp.fas.org/crs/misc/RS21729.pdf>.

impact of these stations on their environment and consumers – relevant state agencies may intervene as of right for this reason. *See* 18 C.F.R. § 385.214(a)(2). Further, the public has a strong interest in enforcing its state laws to limit emissions. *Cf. Hughes v. Talen Energy Mktg., LLC*, 578 U.S. 150, 164 (2016) (Sotomayor, J., concurring) (recognizing “the importance of protecting the States’ ability to contribute, within their regulatory domain, to the Federal Power Act’s goal of ensuring a sustainable supply of efficient and price-effective energy”)⁹; 15 U.S.C. § 717 (reserving state authority to regulate intrastate transportation and sale of methane gas).

Finally, the States’ motion is timely. The States seek intervention on environmental grounds within the comment period of the draft EIS. *See* 18 C.F.R. §§ 380.10(a)(1), 157.10(a)(2).

COMMUNICATIONS

All communications, correspondence, and documents related to this proceeding should be served on the following persons:¹⁰

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⁹ Although *Hughes* addresses the Federal Power Act, not the Natural Gas Act, the Supreme Court “has routinely relied on NGA cases in determining the scope of the [Federal Power Act], and vice versa.” 136 S.Ct. at 1298 n.10.

¹⁰ The States of Washington, Oregon, and California respectfully request waiver of Rule 2010(k)(1) of the Commission’s Rules of Practice and Procedure to allow each of the listed representatives to be added to the official service list in this proceeding. 18 C.F.R. § 385.2010(k)(1) (2021).

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PROTEST

Under Section 7 of the Natural Gas Act, the Commission must find a project is or will be required by the “public convenience or necessity.” 15 U.S.C. § 717f(c), (e). The Commission’s 1999 Policy Statement guides this decision. *See* Certification of New Interstate Natural Gas Pipeline Facilities, 88 FERC ¶ 61,227 (1999), clarified, 90 FERC ¶ 61,128, further clarified, 92 FERC ¶ 61,094 (2000) (“1999 Policy Statement”).

Under the 1999 Policy Statement, the Commission first answers a threshold question: Is the project subsidized by existing customers? If yes, the project application should be denied without further analysis. Next, the Commission balances the public benefits against the adverse effects. This step primarily considers the economic costs and benefits from the project, including whether the project serves a public need. If the economic benefits outweigh the adverse economic effects, the Commission conducts an environmental analysis under the National Environmental Policy Act. The GTN Xpress project fails under each step of this analysis, and each is sufficient to deny the Project.

A. The Application Should Be Denied Because Existing Customers Will Subsidize the Project.

The Commission should reject GTN’s proposal because GTN has not made the threshold showing that existing customers will not subsidize the expansion. Under the

1999 Policy Statement, “[t]he threshold requirement . . . for existing pipelines proposing an expansion project is that the pipeline must be prepared to financially support the project without relying on subsidization from existing customers.” 1999 Policy Statement at 19. The existence of a subsidy indicates a lack of market-based need for a project. *Id.* at 22. Instead, subsidization can lead to “overbuilding and inefficient investment.” *Algonquin Gas Transmission, LLC*, 130 FERC ¶ 61,011, 61,033 (2010).

GTN has not shown that its new customers will pay the full costs of its expansion. As Puget Sound Energy and Pacific Gas and Electric previously noted, the \$75.1 million project cost in the instant application excludes \$251 million GTN already spent replacing compressor units at the Athol, Kent, and Starbuck stations. *See* Mot. to Intervene Out-of-Time and Protest of Puget Sound Energy, Inc. at 5-6 (Nov. 17, 2021); Mot. to Intervene and Protest of Pacific Gas and Electric Co. at 4 (Nov. 9, 2021); Application, Ex. K (Cost of Facilities). In response, GTN wrongly claimed the \$251 million replacements were justified under the Commission’s Prior Notice regulation, 18 C.F.R. § 2.55(b), but that regulation did not allow GTN’s actions here. *See* Mot. for Leave by Gas Transmission Northwest to File Answer to Protests at 5-6 (Dec. 16, 2021).

GTN cannot rely on Section 2.55(b) to exclude the \$251 million it spent to replace existing compressors because those replacements increased capacity of the pipeline. Section 2.55(b) permits replacement of deteriorated or obsolete facilities that “will have a substantially equivalent designed delivery capacity.” The replacement cannot result in an “incidental increase in capacity.” 18 C.F.R. § 157.202(b)(2)(i). But that is exactly what happened here. GTN’s replacements resulted in increased capacity – this was a primary purpose of the replacement. *See* Ex. D, TC Pipelines Press Release.

Just as GTN omits relevant facts in this application about the full costs of its expansion project, it failed to disclose relevant facts in its prior notice applications. *See* 18 C.F.R. § 385.203(a)(6) (2008) (stating pleadings must include all “relevant facts”). GTN did not disclose it was replacing the existing 14,300 horsepower units with new units that were substantially larger (23,470). *See id.*; Application at 6-7. GTN further claimed the new units were “the nearest reliable size available to the unit being replaced.” *See* Notification, Athol Compressor Station, Dkt. CP20-82-000, (Mar. 10, 2020); Notification, Kent Compressor Station, Dkt. CP20-85-000, (Mar. 10, 2020); Notification, Starbuck Compressor Station, Dkt. CP20-86-000, (Mar. 10, 2020). Not so. The same manufacturer makes smaller compressor units. *See* Ex. B, Lander Decl. at 15. Finally, GTN did not disclose its intent to use the new, larger units to expand capacity. Instead, GTN waited until one month after completing the replacements to apply to the Commission for expanded capacity using the new compressors. The result of GTN’s omissions in the current and prior applications is an improperly segmented review, hiding the full scope of environmental impacts and costs to consumers. *See* Comments on the Draft EIS by the States of Washington, Oregon, and California at 23-24 (“States’ Draft EIS Comments”).

As expert Gregory Lander describes, when even a portion of the cost to replace these compressors is included in the project costs, GTN’s projected revenues do not exceed costs. *See* Ex. B, Lander Decl. at 16-18. It also further highlights GTN’s likely inability to recover the full costs of the project, which it already projects to last until 2072 – well past the States’ transition to a clean economy. *See* Ex. C, Energy Futures Report at 62-64; *infra* pp.17-19. As a result, the Commission should deny the application.

GTN claims the Commission can simply defer this issue to GTN's next rate case. *See* Mot. for Leave by Gas Transmission Northwest to File Answer to Protests at 11 (Dec. 16, 2021). But rate treatment should be resolved *before* construction begins. 1999 Policy Statement at 21; *see also Tennessee Gas Pipeline Co., L.L.C.*, 140 FERC ¶ 61,120, 61,595 (2012) (describing Commission practice of making “an upfront determination on the rate treatment for expansion projects”). Further, the existence of a subsidy is grounds to deny an application. It also indicates a lack of market need or public interest in an expansion project, which, as discussed below, are additional reasons to deny the Project. *See* 1999 Policy Statement at 20.

B. GTN's Expansion Does Not Serve a Public Necessity.

The Commission may only approve projects that serve a public necessity. *See* 15 U.S.C. § 717f(c). “In analyzing the need for a particular project, the [1999] Policy Statement makes it clear that the Commission will consider *all* relevant factors.” *Env't Def. Fund v. FERC*, 2 F.4th 953, 959 (D.C. Cir. 2021), *cert. denied sub nom. Spire Missouri Inc. v. Env't Def. Fund*, 142 S. Ct. 1668 (2022). The 1999 Policy Statement recognized that exclusive reliance on precedent agreements did not provide a full picture of a project's benefits or adverse effects, such as a particular fuel's “environmental advantages” or “community interests.” 1999 Policy Statement at 16, 25-26. Further, showing a company will buy the capacity, but does not intend to buy the gas (as in the case of a gas producer), does not indicate public need. *Id.* at 25. Thus, while precedent agreements remain “important evidence” of public need they are not conclusive. *Id.*; *see also Env't Def. Fund*, 2 F.4th at 959 (noting the difference between “saying that precedent agreements are always *important* versus saying that they are

always *sufficient*”). Instead, necessary evidence “will usually include a market study . . . Vague assertions of public benefits will not be sufficient.” 1999 Policy Statement 25.

The Commission should reject GTN’s application to expand pipeline capacity because there is no public necessity for it. State policies will significantly reduce regional demand for methane, so increasing fixed costs for methane infrastructure will harm consumers in the long term. GTN’s application ignores these policies and summarizes two contracts with utilities, neither of which establish need for increased capacity, and a contract with a Canadian gas producer, which is not evidence of a domestic need for gas.

1. State energy policies drive need for gas in the region.

In this case, an essential component of the Commission’s need inquiry is the state energy policies that are effecting a declining market for methane gas in the Pacific Northwest. In assessing the future need for methane in the region, the Commission cannot ignore the future effect of these policies. As the D.C. Circuit explained:

The public convenience and necessity for which regulatory agencies issue certificates are the convenience and necessity of the future. The needs of yesterday require no fulfillment if they be not the needs of tomorrow. . . . Every new bus route, new airplane service, new radio station, new stock issue, new pipe line, new power project, and so on, seeks its permissive certificate upon the basis of future possibilities.

City of Pittsburgh v. Fed. Power Comm'n, 237 F.2d 741, 752 (D.C. Cir. 1956) (quoting *American Airlines, Inc. v. Civil Aeronautics Board*, 192 F.2d 417 (1951)). See also 1999 Policy Statement at 23 (directing Commission to consider “all relevant factors”).

A key component to these laws and policies is transitioning from methane electricity generation to a 100 percent renewable grid. Methane-powered generation accounts for 32 percent of total methane use in the region. See Ex. C, Energy Futures Report at 54. As the States transition to 100 percent clean electricity, the amount of

methane needed for electricity generation will decline, freeing up capacity for other uses or reducing overall need. *See id.* The States are working to meet their renewable electricity targets. This spring, California passed a major milestone in its route to a clean electric grid by 2045: for the first time, renewables briefly powered 103 percent of energy on the grid.¹¹ Oregon has more than seventeen major wind and solar projects in development, with a combined capacity of nearly 4,000 MW. *See* Ex. A at 10-11. For comparison, all of Oregon's methane generation produces 3,149 MW as baseload, and 954 MW peaking capacity. *See id.* at 11. Eighty-three percent of Washington's electricity comes from renewable sources,¹² and Washington has at least nine major wind and solar projects in development, with a combined capacity of 2,110 MW, *see* Ex. A at 9.

GTN claims the majority of its expansion will serve demand for residential and commercial uses other than electricity generation, *see* Application at 9, but Washington, Oregon, and California have laws restricting methane use for those purposes as well, *see* Ex. A at 1-9. Washington's building code prohibits methane heating in new multi-family residences and most commercial buildings as of 2023. WASH. ADMIN. CODE § 51-11C-40314. In California, all newly built homes must install solar systems, and fifty-nine cities and counties have adopted building ordinance codes to reduce reliance on methane. *See* Ex. A at 9; CAL. CODE REGS. tit. 24, Pt 6 (CA Building Standards Energy Code). As noted above, Oregon regulations require reductions in greenhouse gas emissions from

¹¹ CALIFORNIA ISO, *Monthly Renewables Performance Report* (May 2022), <https://www.caiso.com/Documents/MonthlyRenewablesPerformanceReport-May2022.html>; Eric Gimon, *California Can Reliably Hit 85% Clean Energy By 2030 Without Risking Outages – En Route To A 100% Clean Grid*, FORBES (May 11, 2022, 7:15 AM), <https://www.forbes.com/sites/energyinnovation/2022/05/11/california-can-reliably-hit-85-clean-energy-by-2030-without-risking-outages--en-route-to-a-100-clean-grid/?sh=3b540ac03b44>.

¹² U.S. Energy Information Administration, *Washington: State Profile and Energy Estimates*, <https://www.eia.gov/state/analysis.php?sid=WA#:~:text=Renewable%20energy,total%20hydroelectric%20generation%20in%202020> (last visited Aug. 18, 2022).

fossil fuels used throughout Oregon in transportation, residential, commercial and industrial settings (for purposes other than electricity generation). OR. ADMIN. R. Ch. 340, Div. 271. As energy planning expert David Hill noted, the utility demand forecasts that GTN cites improperly equate a growing population with increased gas consumption. *See* Ex. C, Energy Futures Report at 45-46. The demand forecasts “do not reflect potential reductions in new gas hookups due to customer choice and market dynamics, the potential for existing customers to electrify, nor the potential for local and state governments to limit or prohibit gas service for new construction.” *Id.* at 46. The Commission’s assessment of public need must be broader than these limited projections by private companies. *See Pittsburgh*, 237 F.2d at 752; 1999 Policy Statement at 23, 25.

Consideration of these State laws is also vital to fulfill the Commission’s duty to “protect consumers against exploitation at the hands of natural gas companies” and ensure “reasonable prices.” *City of Clarksville v. FERC*, 888 F.3d 477, 479, 485 (D.C. Cir. 2018). Increasing fixed costs from new infrastructure poses an unacceptable risk of stranded assets, which could lead to higher prices for the remaining future consumers of methane. As expert David Hill explains, using GTN’s proposed annual depreciation expenses, it will require roughly 47 years for the \$75.1 million project cost to be fully depreciated – until 2072.¹³ Ex. C at 62-64. Thirty percent of total costs will be recovered in the last thirty years of the project, from 2042-2072. *Id.* This is twenty-two years past 2050, when the nation aims to be net zero, and when the States project significantly reduced use of methane. *See id.* at 25-27; *supra* pp. 2-5.

¹³ The time to recover costs may be even longer, since GTN is improperly excluding \$251 million it spent upgrading the compressor units for this project. *See supra* pp. 11-14.

Assuming GTN will be able to continue operating its pipeline at near-full capacity through 2072 is dangerously speculative – both for our climate and for consumers. To put this in context, if GTN continues business as usual with its pipeline in 2050, that would represent 48 percent of the region’s target GHG emissions *from all sources*. See Ex. C, Energy Futures Report at 61. For the remaining consumers of methane gas in 2050, this asset “may impose increasing costs on remaining customers, which in-turn will encourage even more of them to exit the gas system. The proposed cost recovery period also risks placing an unfair burden on customers for whom transitioning . . . to other options may be most difficult due to financing, up-front costs, or other barriers.” *Id.* at 64. The Commission must consider the impact of imposing these costs on future methane consumers.

State regulators already are taking these factors in account to protect consumers. For example, the California Energy Commission recommends “halt[ing] expansion of the gas system . . . Insofar as throughput declines and customer exits can be expected, additional obligations (from new investments in expanded gas infrastructure) will increase the cost of gas service for remaining customers.” *Id.* at 52. Similarly, the Washington Utility and Transportation Commission substantially decreased allowances to extend pipelines to serve new customers. The agency based its decision in part on “the likelihood that natural gas lines will not be serving customers in Washington in perpetuity, [state climate policies, and] ensuring that utility tariffs do not increase the likelihood of stranded assets in the future.” See Order 01 Authorizing and Requiring Tariff Revisions, Wash. Util. and Transp. Comm’n, Dkt. UG-210729, 6-7 (Oct. 29,

2021). Like state regulators, the Commission must consider state climate laws to prevent unreasonably high costs for future customers.

2. GTN’s summary of its precedent agreements are not sufficient evidence of a public need.

While GTN ignores the clear trend to reduce fossil fuel use in the Pacific Northwest, it claims the Commission can find evidence of public need by summarizing three precedent agreements – two with utilities, Cascade Natural Gas Corporation and Intermountain Natural Gas Company, and one with a Canadian gas producer, Tourmaline Oil Marketing Corporation. *See* Application at 9. None of these agreements demonstrate a public need.

a. Cascade’s demand projections are outdated and do not show a need for more pipeline capacity.

Regarding Cascade, GTN claims the contract is necessary to serve growing demand in Oregon and that Cascade is “faced with peak day supply shortfalls in Oregon, expected as early as 2024, as well as an annual average load growth rate of 2.12% in Zone GTN of Cascade’s system.” Application at 11 (citing CASCADE NATURAL GAS, *2020 Integrated Resource Plan* (Feb. 26, 2021)¹⁴ (hereinafter “Cascade 2020 IRP”)). GTN is not presenting the full picture of demand on Cascade’s system.

First, Cascade’s 2020 IRP does not take into account “carbon legislation [and] building code changes” that took effect after the 2020 IRP was published (and after this precedent agreement was executed). 2020 Cascade IRP at 3-21; *see also* Ex. C, Energy Futures Report at 46. Cascade noted then that its future projections were “particularly difficult” in light of the then-pending legislation. 2020 Cascade IRP at 3-21. Those laws

¹⁴ <https://www.cngc.com/wp-content/uploads/PDFs/IRP/2020/washington/final/2020-Cascade-Integrated-Resource-Plan.pdf>

and rules were enacted in 2021 and 2022: Oregon and Washington created cap-and-reduce emissions programs and Washington amended its building code to restrict methane gas hookups in most new buildings. *See* Ex. A at 4-7. As Cascade noted in its 2020 IRP, these programs will significantly affect its 2020 demand projections. 2020 Cascade IRP at 3-19; *see also* Staff Comments on Cascade's 2020 IRP, Wash. Util. and Transp. Comm'n, Dkt UG-190714, 5, (May 27, 2021) (directing Cascade to evaluate the impacts of Washington climate laws in its next IRP). In addition, Cascade's demand forecast methods are overly simplistic and ignore evidence of market dynamics, customer choice, and state and local laws favoring electrification. *See* Ex. C, Energy Futures Report at 45-46. For these reasons, Cascade's IRP is not reliable evidence of need for GTN's expansion project.

Even considering Cascade's 2020 IRP projections at full value, however, they do not show a need for more capacity on GTN's pipeline. In its 2020 IRP, Cascade forecasted a rising need for gas up to 387,764.5 Dth/d on Peak Days¹⁵ in 2040. *See* Ex. B, Lander Decl. at 20. But it already has sufficient capacity under contract to meet that need (it has 596,181 Dth/d). *Id.* While Cascade does anticipate shortfalls in Peak Day demand in its Zone GTN (the area that GTN's pipeline serves), it does not anticipate those shortfalls to exceed the 20,000 Dth/d it contracted for until well past 2040. *Id.* at 19. In other words, Cascade does not project a need for all of the Project's additional capacity for at least seventeen years. Further, that projection assumes annual growth continues

¹⁵ Peak day represents a day with extreme demand for methane gas, typically the coldest days of the year. For Cascade's projections, Cascade assumed the coldest day recorded in the past thirty years. *See* Cascade 2020 IRP at 3-6.

which, as discussed above, does not account for probable changes in demand resulting from state transitions to renewable energy and market dynamics.

b. Intermountain's contract replaces capacity on another pipeline.

GTN also cites the Intermountain contract as evidence the expansion project is necessary to serve rising customer demand in Idaho. *See* Application at 12. While Intermountain anticipates growing customer demand in its service area, Intermountain “is not subscribing to the GTN capacity to meet growing demand, but rather, to replace a supply source to feed its NWPL capacity.” *See* Ex. B, Lander Decl. at 21. In its most recent IRP, Intermountain states its capacity shortfall is “created by expiring contracts.” INTERMOUNTAIN GAS COMPANY, *Integrated Resource Plan 2021-2026*, 165 (Dec. 17, 2021)¹⁶ (“Intermountain 2021 IRP”). Intermountain describes three options for addressing the shortfall: renewing existing contracts for capacity on the Northwest Pipeline, replacing the contracts with capacity on GTN, or purchasing biogas (also termed “renewable natural gas”). *See id.*

The Intermountain contract does not support a finding of need. Under the 1999 Policy Statement, projects designed “to serve markets already served by another pipeline” require a greater showing of need and public benefits. 1999 Policy Statement at 25. That is precisely what is happening here: GTN’s expanded capacity competes with existing pipeline capacity on the Northwest Pipeline. As a result, GTN must satisfy a higher burden to show public need and benefit. GTN does not meet that burden here, especially since GTN’s existing customers are subsidizing the expansion. *See supra* pp. 11-13. As the Commission recognized, “[e]xisting pipelines should not have to compete against

¹⁶ <https://www.intgas.com/wp-content/uploads/PDFs/regulatory/2021/2021-Integrated-Resource-Plan.pdf>.

new entrants into their markets whose projects receive a financial subsidy (via rolled-in rates), and neither pipeline's captive customers should have to shoulder the costs of unused capacity that results from competing projects that are not financially viable." 1999 Policy Statement at 20. In short, the Intermountain contract provides little, if any, support, for a finding of public need here.

c. A Canadian gas producer's interest in securing market share is not evidence of public need.

Finally, GTN summarizes a contract with Tourmaline Oil Marketing Corporation, but this too is not an indicator of public need. Tourmaline is a Canadian gas producer, not an American gas consumer, and, per GTN's application, Tourmaline intends to sell the gas in West Coast markets. Application at 13. Since Tourmaline does not intend to buy or use the gas it transports on GTN's pipeline, its contract is not sufficient evidence of need. See 1999 Policy Statement at 16.

GTN nonetheless contends Tourmaline's contract "is evidence of need in primarily West Coast markets," including "Northern California markets needing natural gas for electricity generation." Application at 13. To support this assertion, GTN only cites a confidential market report. See *id.*, n.15. Citing a confidential report is not sufficient evidence, since that report is not publicly available to test its conclusions, reasoning, or underlying data.

Significantly, California gas utilities do not project any shortfall in gas supply, as the State has access to multiple gas-producing regions. See CAL. GAS AND ELEC. UTIL., 2022 California Gas Report, 76¹⁷ ("Most industry forecasts continue to predict that gas

¹⁷ https://www.socalgas.com/sites/default/files/Joint_Utility_Biennial_Comprehensive_California_Gas_Report_2022.pdf.

production will meet most demand outlooks in the future.”). California’s gas utilities also did not state a need for increased pipeline capacity. *See id.* at 77 (stating the El Paso, Mojave, Transwestern, GTN, Paiute Pipeline Company, Ruby, and Kern River pipelines serve northern and central California, which provide access to gas-producing regions in the U.S. Southwest and Rocky Mountain areas, and in Western Canada). In sum, the expected declines in methane demand from state policies and GTN’s own evidence do not show a public necessity for more methane infrastructure.

C. Adding Methane Infrastructure in a Region that is Rapidly Transitioning to Renewable Energy is not in the Public Interest.

Expanding methane gas in the Pacific Northwest is not in the public interest.

Where an “application on its face or on presentation of evidence signals the existence of a situation that probably would not be in the public interest,” the Commission should not issue a certificate. *Atl. Ref. Co. v. Pub. Serv. Comm’n of N.Y.*, 360 U.S. 378, 391 (1959). In determining where the public interest lies, Section 7 of the Natural Gas Act “requires the Commission to evaluate all factors bearing on the public interest.” *Id.*

Environmental protection is a key factor in determining the public interest.

Environmental considerations include emissions from the production and use of the gas for which the Commission authorizes transport. *See Sierra Club v. FERC*, 867 F.3d 1357, 1373 (D.C. Cir. 2017) (affirming the Commission may deny a pipeline certificate because of harmful environmental effects, such as downstream greenhouse gas emissions); *Vecinos para el Bienestar de la Comunidad Costera v. FERC*, 6 F.4th 1321, 1331 (D.C. Cir. 2021) (holding Commission’s public interest finding was deficient because it did not fully consider impacts on climate change and environmental justice).

Another key factor is how the gas will be used, and whether alternative energy sources are more suitable for that use. The Commission has a long history of considering whether supplying methane gas for a particular use serves the public's interest in conservation and environmental protection. As the Supreme Court stated, the Commission cannot "blind itself to the effects of the purchase and use of the gas when its authority to certificate the transportation of the gas was invoked." *Fed. Power Comm'n v. Transcontinental Gas Pipeline Co.*, 365 U.S. 1, 7 (1961); *see also Hope Nat. Gas Co.*, 4 FPC 59, 66-67 (1944) (stating "considerations of conservation are material to the issuance of certificates of public convenience and necessity under section 7" and authorizing a project in large part because of the particular end use of the gas); *Transwestern Pipeline Co.*, 36 FPC 176, 185-186 (1966) (affirming the "end use of gas was properly of concern to [the Commission], and . . . air pollution was a relevant consideration"); *cf. Am. La. Pipe Line Co.*, 16 FPC 897, 899-900 (1956).

If an alternative energy source would better serve the proposed end use of the transported gas, then supplying methane for that purpose may not serve the public interest, even if it is an alternative the Commission cannot command. *See Pittsburgh*, 237 F.2d at 745. For example, in *Transcontinental Gas Pipeline*, the Commission considered whether using methane gas for industrial uses was "wasteful," given that other energy sources that could meet the need. 365 U.S. at 7. The Supreme Court held this was a proper component of the public interest inquiry. *Id.* In the instant case, the Project has adverse impacts on climate change, will conflict with state law, and will increase local air pollution. These adverse impacts outweigh any public benefit, particularly given available alternatives.

1. The Project has adverse effects because it will conflict with State laws, worsen climate change, and increase air pollution.

The Commission must consider the interests of a community surrounding a proposed project. *See* 1999 Policy Statement at 24. State and local governments often represent those community interests. *See id.* In this case, the attorneys general from three of the four states the project intends to serve oppose this project. Additionally, over 1,000 community members wrote to the Commission in opposition. *See* Columbia Riverkeeper Member & Supporter Comments (Feb. 22, 2022).

Our State Legislatures have recognized a strong public interest in reducing consumption of methane gas. *See* Ex. A. The citizens of our States have seen the harmful impacts of climate change on their economy, way of life, and environment. *See supra* p.2. When presented with the ever-growing costs of the climate crisis, state elected officials determined it was in the public's interest to reduce consumption of fossil fuels. *See, e.g.,* WASH. REV. CODE § 70A.65.005; STATE OF OR., OFF. OF THE GOVERNOR, *Executive Order No. 20-04* (2020)¹⁸; Global Warming Solutions Act of 2006 (AB 32), sec. 38501. Authorizing expanded infrastructure to bring more methane into our States is against the public's interest, manifest in their state and local laws.

The public also has a strong interest in the successful implementation of those laws. As discussed in the States' comments on the Draft EIS, expanding methane emissions conflicts with state laws to cap and reduce those emissions. *See* States' Draft EIS Comments at 5-8. The States play a critical role in "ensuring a sustainable supply of efficient and price-effective energy" within their regulatory domain, and federal approval

¹⁸ https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf.

of a project that conflicts with State efforts should not be taken lightly. *See Hughes*, 578 U.S. at 164 (2016) (Sotomayor, J., concurring).

Another serious adverse factor in this case is the **3.47 million** metric tons of CO₂ this project will emit, each year, until at least 2052. Draft EIS at 4-37 – 4-40. That equals adding over 754,000 cars on the road each year.¹⁹ The harm these emissions will cause to the public is substantial – the Draft EIS estimates they would cause approximately twelve billion dollars in damages. *See* Draft EIS 4-47; States’ Draft EIS Comments at 4-5. And these numbers do not account for upstream emissions, since the gas must be produced somewhere, and that production will also cause emissions. *See* States’ Draft EIS Comments at 10-12. Increasing emissions now, and continuing them through at least 2052, will worsen climate change exponentially. As the Intergovernmental Panel on Climate Change states: “[t]he magnitude and rate of climate change and associated risks depend strongly on near-term mitigation and adaptation actions, and projected adverse impacts and related losses and damages escalate with every increment of global warming.” Hans-O. Portner, ET AL., *Summary for Policymakers*, IPCC, 14 (2022).²⁰ These damages include mass extinction of species, water scarcity, food insecurity, and placing more than a billion people “at risk from coastal-specific hazards,” such as sea level rise and flooding. *Id.* at 15.

Finally, the project will increase local air pollution, but the Commission has not made sufficient efforts to engage nearby communities. The Commission recently

¹⁹ ENV. PROT. AGENCY, *Greenhouse Gas Emissions from a Typical Passenger Vehicle*, <https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle#:~:text=typical%20passenger%20vehicle%3F-A%20typical%20passenger%20vehicle%20emits%20about%204.6%20metric%20tons%20of,around%2011%20C500%20miles%20per%20year> (last visited Aug. 19, 2022).

²⁰https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf.

identified its Section 7 siting decisions as a key area for improving its consideration of environmental justice in order to “foster greater public trust and help the Commission carry out its duty to serve the public interest.” FERC, Equity Action Plan, 9 (April 15, 2022)²¹. At minimum, the Commission must “identif[y] and address[] disproportionately high and adverse human health or environmental effects . . . on minority populations and low-income populations.” E.O. 12898 of Feb. 16, 1994: Federal Actions to Address Environmental Justice, 59 Fed. Reg. 7629, 7629. It can do so here by weighing the adverse impacts on the community surrounding the Starbuck station in its public interest determination.

As discussed in the States’ comments on the EIS, the area around the Starbuck Station has disproportionately high rates of air pollution. *See* Ex. G, EJ Screen Report. This project will add to the problem, by “result[ing] in long-term impacts on air quality” in the area. Draft EIS 4-31. The Draft EIS further notes that a predominately Latinx community lives within one mile of the Starbuck station. Draft EIS 4-23, 25. Increasing pollution in a community of color overburdened by pollution is against the public interest. This is especially true given the lack of meaningful outreach to the surrounding community. *See* Draft EIS 4-21 (noting that “the record does not demonstrate that [opportunities for public involvement] were targeted at engaging environmental justice communities”).

2. Any benefits do not outweigh the adverse effects because there is scant evidence of need, and there are cleaner alternatives.

The record shows minimal, if any, public benefits from the project. As discussed above, there is scant evidence of a public need for the methane gas the project will

²¹ <https://www.ferc.gov/news-events/news/ferc-issues-equity-action-plan>.

transport. The lack of need alone is sufficient to deny the certificate. *See* 15 U.S.C. § 717f; *Atl. Refin. Co.*, 360 U.S. at 394 (Harlan J., concurring) (rejecting Commission’s certificate in part because there was no evidence that the public had an urgent need for the gas supplies).

Even if GTN had presented evidence of growing demand for methane gas, that would give only minimal weight in favor of a certificate because there are renewable alternatives that can meet public demand for energy with fewer risks to the climate or consumers. *See* Ex. C, Energy Futures Report at 57-64; States’ Draft EIS Comments at 19-23. Just as the Commission considered alternative energy sources for the designated end-use of gas in *Transcontinental*, it must consider here whether alternative technologies exist that can better serve consumers need for energy. *See* 365 U.S. at 7. As discussed above, pp. 15-17, state laws will lead to the replacement of methane-generated electricity with renewable resources. Generating electricity from lower-emission, renewable sources is preferable to burning methane, which contributes to climate change and air pollution. Another significant use of methane gas in the region is for residential space and water heating, but electric heat pumps can heat more efficiently and cheaply than methane equipment. *See* Ex. C, Energy Futures Report at 54, 58. Other alternatives that State regulators have considered to reduce peak day demand include selective electrification or limiting new gas connections. *See id.* at 58.

On balance, the record shows a certificate is not in the public interest. In light of the climate crisis, the Commission should not approve expanded gas supplies that do not meet a significant public need and will worsen the effects of climate change, particularly

where alternative energy sources can serve consumer need for energy more efficiently, cheaply, and with fewer environmental risks.

CONCLUSION

For these reasons, the Commission should grant the States' motion to intervene and deny GTN's application to expand methane gas infrastructure in a region transitioning off the fuel.

DATED: August 22, 2022

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document and attached exhibits upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated this 22nd day of August, 2022.

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EXHIBITS

- A. Summary of State and Local Climate Laws & Renewable Energy Development
- B. Declaration of Gregory Lander with accompanying exhibits and curriculum vitae
- C. Report: GTN Xpress Project: A Critical Review of Need, Costs, and Impacts, by David Hill and Earnest White, Energy Futures Group, with curriculum vitae
- D. TC PipeLines, LP, Press Release: *TC PipeLines, LP announces GTN Xpress to enhance market access for growing WCSB supply and allow additional market penetration along GTN's system*, GlobeNewswire (Nov. 1, 2019), <https://www.globenewswire.com/news-release/2019/11/01/1939332/0/en/TC-PipeLines-LP-announces-GTN-XPress-to-enhance-market-access-for-growing-WCSB-supply-and-allow-additional-market-penetration-along-GTN-s-system.html>.
- E. The Motley Fool, *TC Energy Corporation (TRP) Q3 2019 Earnings Call Transcript* (Nov. 7, 2019, 11:00 AM), <https://www.fool.com/earnings/call-transcripts/2019/11/08/tc-pipelines-l-p-tcp-q3-2019-earnings-call-transcr.aspx>
- F. Webpage Printouts of Tourmaline Operations, taken from: TOURMALINE, <https://www.tourmalineoil.com/operations> (last visited Aug. 15, 2022)
- G. U.S. Environmental Protection Agency, EJ Screen Report centered at the Starbuck Compressor Station
- H. Environmental Health Disparities Maps for the area around the Starbuck Station, taken from: WA State Dep't of Health, *Washington Tracking Network*, <https://fortress.wa.gov/doh/wtnibl/WTNIBL/> (last visited Aug. 15, 2022).
- I. Elena Austin, ScD, ET AL., *Combined burden of heat and particulate matter air quality in WA agriculture*, J AGROMEDICINE, Jan. 1, 2021.
- J. Excerpts from *Mill Creek and Walla Walla County Community Wildfire Protection Plan Update*, 1-9, 19-21, 54-70 (2017), https://files4.1.revize.com/wallawalla/document_center/emergency%20management/Walla%20Walla%20County%20CWPP%202021%20Update%20REDUCED%20SIZE.pdf
- K. Excerpts from WA STATE DEP'T OF FISH & WILDLIFE, *Shrubsteppe Fire Preparedness, Response, and Restoration*, <https://wdfw.wa.gov/about/advisory/ssc> (last visited Aug. 15, 2022).

- L. Excerpts from WA STATE DEP'T OF NATURAL RESOURCES, *Report of Substitute House Bill 2561*, 5, 10, 47, 78,
https://www.dnr.wa.gov/publications/rp_fire_advisory_committee_report.pdf.
- M. First Amended Complaint, *California v. CEQ*, No. 20-cv-06057 (N.D. Cal., filed Nov. 23, 2020)

EXHIBIT A

Summary of Renewable Energy Laws and Development Projects

Washington State Laws

Greenhouse Gas Emissions Limits: WASH. REV. CODE § 70A.45.020 (2020)

- This law sets greenhouse gas emission reduction targets for the state of Washington through 2050. In this law, the legislature states its intent “to grow the clean energy sector and reduce the state’s expenditure’s on imported fuels.” WASH. REV. CODE § 70A.45.005 (2021). In order to achieve this, the law set four targets in WASH. REV. CODE § 70A.45.020 (2020):
 - By 2020, reduce overall emissions of greenhouse gases in the state to 1990 levels, or ninety million five hundred thousand metric tons;
 - By 2030, reduce overall emissions of greenhouse gases in the state to fifty million metric tons, or forty-five percent below 1990 levels;
 - By 2040, reduce overall emissions of greenhouse gases in the state to twenty-seven million metric tons, or seventy percent below 1990 levels;
 - By 2050, reduce overall emissions of greenhouse gases in the state to five million metric tons, or ninety-five percent below 1990 levels.

The Climate Commitment Act: WASH. REV. CODE Ch. 70A.65 (2021)

- The Climate Commitment Act is a "cap-and-invest" program for greenhouse gas emissions that becomes effective January 1, 2023. The Act covers methane gas facilities that generate 25,000 metric tons or more of Carbon Dioxide equivalent (“CO₂e”), as well as utilities who provide enough gas that, if burned, would release at least 25,000 metric tons of CO₂e. § 70A.65.080(a-e). Covered facilities may not increase annual emissions, and must progressively reduce their emissions over time, consistent with the state's greenhouse gas emission reduction targets described above. Offset projects are allowed, but must be “real, permanent, quantifiable, verifiable, and enforceable.” § 70A.65.170. Facilities can meet only 5% of their obligations with offsets through 2026, and only 4% after that. *Id.*

The Clean Energy Transformation Act: WASH. REV. CODE Ch. 19.405 (2019)

- The Clean Energy Transformation Act requires all retail sales of electricity to Washington customers to be greenhouse gas neutral by 2030. § 19.405.040. After 2030, utilities may use limited amounts of methane to generate electricity if offset by other actions. By 2045, all retail sales of electricity must be 100% from renewable resources. § 19.405.050. Each investor-owned utility must develop and submit a four-year clean energy implementation plan, proposing specific targets for energy efficiency, demand response, and renewable energy to meet these deadlines. § 19.405.060(1). They must also create interim targets for the years before 2030, and include specific actions that demonstrate progress toward meeting the greenhouse gas neutrality and elimination. *Id.*

For methane-burning utilities, failing to comply results in an administrative penalty of \$100 multiplied by 0.84 for each megawatt-hour of electric generation. § 19.405.090.

Washington State Building Code Council Regulations:

- The Washington State Building Code Council will restrict the use of methane gas in new buildings effective July 1, 2023.
 - Section 51-11C-40314 of the Washington Administrative Code prohibits “fossil fuel combustion appliances,” including appliances burning methane gas, in HVAC heating equipment for new construction. Effective July 1, 2023, this rule applies to multi-family residences greater than four stories, as well as commercial, retail, institutional, and industrial buildings.

Washington State Clean Building Act (amendments and additions to WASH. REV. CODE §§ 19.27A.140, .170, .025, and 19.27.540; chapters added to WASH. REV. CODE §§ 82.16, 80.28)

- This law authorizes the Department of Commerce to develop energy performance standards for non-residential buildings greater than 50,000 square feet. A building’s Energy Use Intensity determines compliance with performance standards. The Energy Use Intensity measures how much energy is used per square foot of conditioned space. The standards are designed to reduce energy consumption in large buildings, and retrofit large commercial buildings with various efficiency improvements, and in some cases electrified HVAC systems. Mandatory compliance begins in 2026.¹
- Chapter 194-50 of the Washington Administrative Code implements the performance standards. This standard is mandatory for all covered commercial buildings in Washington and requires the Department of Commerce to maximize reductions of greenhouse gas emissions from the building sector. WASH. ADMIN. CODE §§ 194-50-010, 194-050-020 (2020).
- In March 2022, Governor Inslee signed the Clean Buildings Expansion bill into law. The expansion applies to buildings 20,000 square feet or larger, adding a new second tier that includes multifamily buildings.² Performance standards for these buildings will take effect in 2031.

Washington City Codes and Local Regulations

BELLINGHAM, WA., ADOPTION BY REFERENCE § 17.10.01 (2022)

- The city of Bellingham adopted the Bellingham Commercial Energy Code, effective August 7, 2022. Similar to the Seattle Energy Code, Bellingham prohibits the use of methane gas for space and water heating in most new construction. The space-heating requirement

¹ See WA. State Dep’t of Commerce, *Clean Buildings Performance Standard*, <https://www.commerce.wa.gov/growing-the-economy/energy/buildings/clean-buildings-standards/> (last visited Aug. 15, 2022).

² See WA. State Dep’t of Commerce, *Clean Buildings Performance Standard*, <https://www.commerce.wa.gov/growing-the-economy/energy/buildings/clean-buildings-standards/> (last visited Aug. 15, 2022).

applies to multi-family residences greater than four stories, as well as commercial, retail, institutional, and industrial buildings. For water heating, buildings with central service water heating systems greater than 15kW shall not use fossil fuels. As in the State Building Code, any other new buildings that may still use methane gas, electric outlets capable of serving an electric appliance must be installed in the same location.

OLYMPIA, WA., Res. M-2889 (Effective January 12, 2022)

- Requires the city manager to electrify all newly constructed and renovated City-owned buildings, subject to exemptions by the City Council. The City Manager also must evaluate the feasibility of retrofitting all existing City-owned to become all-electric by 2030.

SEATTLE, WA., SEATTLE ENERGY CODE § C404.2.3 - C503.5 (2021)

- The City of Seattle adopted more restrictive versions of the State Building Code. Seattle prohibits new buildings from using fossil fuels for water heating, in addition to space heating. SEATTLE ENERGY CODE § C404.2.3. For space heating, the Code applies to multi-family residences greater than four stories, as well as commercial, retail, institutional, and industrial buildings. For water heating, buildings with central service water heating systems may not use fossil fuels. *Id.* As in the State Building Code, any other new buildings that may still use methane gas, electric outlets capable of serving an electric appliance must be installed in the same location.

SHORELINE, WA., COMMERCIAL ENERGY CODE AMENDMENTS § 15.05.090 (2021)

- Shoreline adopted similar provisions as the Seattle Energy Code, described above.

SPOKANE, WA., GREENHOUSE GAS EMISSIONS REDUCTION GOALS § 15.05.020 (2021)

- Spokane set a goal to reduce emissions “created by any activities within the [] City of Spokane” to 45% below 2016 levels by 2030, 70% below 2016 levels by 2040, and net zero emissions by 2050.

TACOMA, WA., Res. 40776 (Effective January 1, 2022)

- Requires all new City-owned buildings and major renovations of existing City buildings to exclude methane gas and other fossil fuels for “heating, lighting, and power.” The City Manager must also evaluate the feasibility of retrofitting existing buildings to low-emission sources by 2030.

Oregon State Laws

Climate Protection Program: OR. ADMIN. R. 340-271 (Effective December 16, 2021)

- The Oregon Climate Protection Program establishes a declining cap on greenhouse emissions from covered fuel suppliers. Covered fuel suppliers receive a declining number of “compliance instruments” over time. Issued by the Oregon Department of Environmental

Quality (“DEQ”), compliance instruments authorize the emission of one metric ton (MT) CO_{2e} of greenhouse gases. OR. ADMIN. R. 340-271-0020(10), 340-271-9000 (2021).

- The overall cap declines from 28,081,335 MT CO_{2e} in 2022 to 15,021,080 in 2035 and to 3,004,216 in 2050. OR. ADMIN. R. 340-271-9000 (2021), Table 2.

Clean Energy Targets: OR. REV. STAT. § 13.36A.469A.410 (2021)

- This law requires Oregon’s investor-owned electric utilities to reduce greenhouse gas emissions to 80 percent below baseline levels by 2035 and to zero by 2040. OR. REV. STAT. § 469A.410(1)(a)-(c) (2021). As a result of this legislation, investor-owned electric utilities will be required to phase out their use of methane gas for electricity generation. For context, as of 2018, the state’s largest electricity provider, Portland General Electric, generated 36.8 percent of its power from methane. *See* OR. DEP’T OF ENERGY, BIENNIAL ENERGY REPORT, ENERGY BY THE NUMBERS, 12 (2020), <https://www.oregon.gov/energy/Data-and-Reports/Documents/2020-BER-Energy-by-the-Numbers.pdf>.

California State Laws

California has many state and municipal laws and regulations that are reducing fossil fuel use in the state, including bans on methane gas hookups for new construction and a requirement for new homes to include solar arrays. For a more comprehensive list of laws and anticipated methane demand, see the California Energy Commission’s 2019 Integrated Energy Policy Report, available at <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report>.

The 100 Percent Clean Energy Act of 2018 (S.B. 100, 2017-2018 Leg., Reg. Sess. (Cal. 2018))

- Requires renewable and zero-carbon energy procurement equal to 100 percent of retail sales to consumers and 100 percent of electricity procured to serve state agencies by 2045. It also requires all state agencies to incorporate these renewable energy requirements in their planning documents.

Executive Orders S-03-05 (2005) and B-55-18 to Achieve Carbon Neutrality (2018)

- Order S-03-05 calls for economy-wide greenhouse gas emissions reductions of 80 percent below 1990 levels by 2050. A subsequent executive order, B-55-18, is aimed to achieve carbon neutrality by 2045 and targets net-negative emissions thereafter.

Global Warming Solutions Act of 2006 (A.B. 32, 2005-2006 Leg., Reg. Sess. (Cal. 2006))

- This act created a comprehensive, multi-year program to reduce greenhouse gas emissions in California. The specific target was to reduce California’s greenhouse gas emissions to 1990 levels by 2020. California achieved that goal in 2016. *See* California Energy Commission, *Final 2019 Integrated Energy Policy Report*, 1 (2020), <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report>.

Warren-Alquist State Energy Resources Conservation and Development Act (A.B. 3232, 2017-2018 Leg., Reg. Sess. (Cal. 2018))

- Requires the California Energy Commission to assess the options for California to reduce greenhouse gas emissions from residential and commercial buildings by 40 percent below 1990 levels by 2030.

Senate Bill 1477 (S.B. 1477, 2017-2018 Leg., Reg. Sess. (Cal. 2018))

- Directs \$50 million annually, for four years, to two programs aimed at reducing emissions from buildings. The first program will incentivize builders to incorporate low-emission and energy efficient technology in new construction. The second program will incentivize development of clean heating technologies, such as electric heat pumps, educate consumers, and train contractors.

California Energy Commission's Building Standards Energy Code (CAL. CODE. REGS. TIT. 24, PT. 6 (2019))

- Requires all newly built homes to install solar systems. This was adopted by the California Energy Commission and approved by the California Buildings Standards Commission.

Clean Energy and Pollution Reduction Act (S.B. 350, 2015-2016 Leg., Reg. Sess. (Cal. 2015))

- Increases California's renewable electricity procurement goal to 50 percent by 2030. It also directs the California Energy Commission to "establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and methane gas final end uses of retail customers by January 1, 2030." De León, Chapter 547, Statutes of 2015.

Environmental Justice in Local Land Use Planning (S.B. 1000, 2015-2016 Leg., Reg. Sess. (Cal. 2016))

- This law requires general planning processes to identify objectives and policies to avoid compounding health risks in disadvantaged communities, encourage stakeholder engagement in public decision-making processes, and prioritize improvements and programs that address the needs of disadvantaged communities. The purpose of this law includes the reduction of harmful pollutants and associated health risks. Leyva, Chapter 587, Statutes of 2016.

California Public Utilities Commission Building Decarbonization Rulemaking, R.19-01-011

- This rulemaking implements SB 1477 (a \$50 Million fuel subsidy program, *supra*), and establishes a building decarbonization policy framework. *See* Decision Establishing Building Decarbonization Pilot Programs, D.20-03-027 (Mar. 26, 2020).

Assembly Bill 2195 (A.B. 2195, 2017-2018 Leg., Reg. Sess. (Cal. 2018))

- Requires the California Air Resources Board (CARB) to create an out-of-state emissions tracking system. This includes an inventory of air emissions relating to methane flares

resulting from the production, processing, and transporting of methane imported from out-of-state sources.

California City Codes and Local Regulations

As of July 2022, 60 cities and counties in California have adopted building ordinance codes to reduce reliance on gas. Below are some examples of bans in major cities. *See Kristiana Faddoul, California's Cities Lead the Way on Pollution-Free Homes and Buildings* (July 22, 2021), <https://www.sierraclub.org/articles/2021/07/californias-cities-lead-way-pollution-free-homes-and-buildings>.

- LOS ANGELES, CA., COUNCIL FILE 22-0151: LA City Council voted to move forward with the implementation of an ordinance and/or regulatory framework that will require all new residential and commercial buildings in Los Angeles to be built to achieve zero-carbon emissions starting on or before January 1st, 2023.
- SACRAMENTO, CA., ORDINANCES 2021-0022, -0015 (2021): New Building Electrification Ordinance and EV Infrastructure Charging Ordinance, both adopted June 1, 2021: Sacramento requires all new buildings under three stories to be all-electric and extends the requirement to all new construction by 2026. It also requires higher than minimum State-required levels of electric vehicle (EV) charging infrastructure in new construction starting in 2023 and provides parking incentives for zero-emission car-sharing and EV charging.
- San Diego: As part of its 2022 Climate Action Plan, San Diego is working toward prohibiting gas hookups in new buildings and announced it will seek to phase out 45% of methane gas use in buildings by 2030 and 90% by 2035. City of San Diego, *Climate Action Plan* (2022), https://www.sandiego.gov/sites/default/files/san_diegos_2022_climate_action_plan_0.pdf.
- SAN FRANCISCO, CA., ORDINANCE 237-020 (11/10/2020): San Francisco expanded on their building electrification ordinance, now requiring that all new construction be all electric starting June 1st 2021.
- SANTA BARBARA, CA., MUN. CODE 22.100 et seq: The city of Santa Barbara will prohibit gas hookups in new buildings beginning in 2022, after adopting an ordinance on July 27.
- SANTA CLARA CNTY., CA., ORDINANCE 108511 (2021): The County adopted an all-electric reach code for new residential and commercial buildings.

Regional Renewable Energy Projects

Washington

According to the Washington Energy Facility Site Evaluation Council (EFSEC), there are nine renewable energy projects pending application review or that have been approved for construction. These projects have a combined capacity of 2,110 MW ([EFSEC](https://www.efsec.wa.gov/energy-facilities), <https://www.efsec.wa.gov/energy-facilities> (last visited Aug. 12, 2022)):

- Horse Heaven Clean Energy: This mixed wind and solar project is under application review and plans to provide 1,150 MW. Horse Heaven Clean Energy Center, <https://horseheavencleanenergy.com/> (last visited Aug. 12, 2022).

- Wautoma Solar: This solar project is under application review and plans to provide 400 MW and a four-hour battery storage. Wautoma Solar Energy Project, <https://www.innergex.com/wautoma-solar-energy-project/> (last visited Aug. 12, 2022).
- Badger Mountain: This solar project is under application review and plans to provide 200 MW and up to 200 MW battery storage. Badger Mountain, <https://www.efsec.wa.gov/energy-facilities/badger-mountain> (last visited Aug. 12, 2022).
- High Top & Ostrea Solar: These combined solar projects are under review and will provide up to 80 MW. High Top and Ostrea Solar Project, <https://www.efsec.wa.gov/energy-facilities/high-top-and-ostrea-solar-project> (last visited Aug. 12, 2022).
- Goose Prairie Solar: This solar project has been approved for construction, and plans to provide 80 MW and up to 80 MW of battery storage. Goose Prairie Solar, <https://www.efsec.wa.gov/energy-facilities/goose-prairie-solar> (last visited Aug. 12, 2022).
- Columbia Solar: This solar project is under construction and plans to provide 25 MW. Columbia Solar, <https://www.efsec.wa.gov/energy-facilities/columbia-solar> (last visited Aug. 12, 2022).
- Desert Claim: This wind project has been approved for construction and will provide up to 100 MW. Desert Claim, <https://www.efsec.wa.gov/energy-facilities/desert-claim> (last visited Aug. 12, 2022).
- Whistling Ridge: This wind project has been approved for construction and will provide up to 75 MW. Whistling Ridge Energy Project, <https://www.efsec.wa.gov/energy-facilities/whistling-ridge-energy-project> (last visited Aug. 12, 2022).
- In addition, other solar and wind projects receive approval from local government authorities and account for hundreds of additional MW of approved or under construction capacity.
- Washington’s first offshore wind proposal, Olympic Wind, is in development and aims to add 2,000 MW of electricity. Olympic Wind, <https://tridentwinds.com/olympic-wind/> (last visited Aug. 12, 2022)

Oregon

- According to Oregon State’s Energy Facility Siting Council, there are 17 renewable energy projects that are either proposed, approved, or under construction. These projects will have a combined capacity of up to 3,998 MW. Energy Facility Siting, <https://www.oregon.gov/energy/facilities-safety/Pages/default.aspx> (last visited Aug. 12, 2022).
- In addition, smaller solar and wind projects, which are not required to obtain permits from the Council, but instead receive approval from local government authorities, account for hundreds of additional MW of approved or under construction capacity. For reference, see Oregon Department of Energy, “Facilities Under EFSC.”

- For comparison, the figures for methane gas electricity generation are as follows:
“[a]cross the fleet of 18 generating facilities in Oregon, five facilities accounting for 954 MW capacity run as “peakers,” operating less than 15 percent of the time on average in 2018. Nine facilities accounting for 3,149 MW ran as baseload, operating around 60 percent or more of the time on average in 2018.” Oregon Department of Energy, 2020 Biennial Energy Report, Resource and Technology Reviews at 12.
- Oregon has potential to continue to dramatically augment its renewable energy generation in the future:
 - “A 2012 National Renewable Energy Laboratory (NREL) study indicates Oregon has technical potential for 27 GW of onshore wind power.” *Id.* at 16.
 - “Oregon has some of the richest offshore wind resources in the nation, particularly off the Southern Coast, with an estimated technical potential of 62 GW.” *Id.* at 17.
 - “Oregon has significant solar generation potential, with a 2012 National Renewable Energy Laboratory (NREL) study estimating annual technical potential for solar in Oregon at 1,775 terawatt hours; Oregon’s total 2018 electricity demand was around 51 terawatt hours.” *Id.* at 27.

California

California has made extensive investments in renewable energy, most notably through small-scale renewable projects and the rooftop solar mandate for new constructions. With over 11 gigawatts of installed solar capacity, California has generated more than 100% of its electricity needs from renewable electricity. Some projects of note that are increasing grid-reliability and reducing methane reliance include (Lauren Sommer, *California just ran on 100% renewable energy, but fossil fuels aren’t fading away yet*, NPR (May 13, 2022, 5:00 AM), <https://www.npr.org/2022/05/07/1097376890/for-a-brief-moment-calif-fully-powered-itself-with-renewable-energy>):

- The Electric Program Investment Charge research program run by the California Energy Commission (CEC), which has made investments in promoting community resilience through energy sector innovation:
 - City of Fremont, Fire Stations Micro-grid Project, <https://www.fremont.gov/about/sustainability/municipal-public-projects/solar-microgrid-projects#:~:text=Fire%20Station%20Microgrids&text=The%20project%20is%20a%20public,a%2040%20kW%20solar%20canopy>. (last visited Aug. 12, 2022)
 - Kaiser Permanente Richmond Medical Center, <https://www.mazzetti.com/project/kaiser-permanente-richmond-medical-center-microgrid/> (last visited Aug. 12, 2022)
 - Chemehuevi Community Center Microgrid, <https://www.cleangroup.org/ceg-projects/resilient-power-project/featured-installations/chemehuevi/> (last visited Aug. 12, 2022)
 - Mission District, Valencia Gardens Energy Storage (VGES), Project, <https://clean-coalition.org/community-microgrids/valencia-gardens-energy-storage-project/> (last visited Aug. 12, 2022)

- Borrego Springs Microgrid, SDG&E, <https://www.sdge.com/more-information/environment/smart-grid/microgrids> (last visited Aug. 12, 2022)
- The Natural Gas Research Program: this ratepayer funded program funds energy efficiency programs and public interest research and development projects. These projects focus on the role of methane gas in California’s transition to a low-carbon economy. Projects include:
 - Reduce methane leaks
 - Capture and use biogas
- University of California-Merced developed aluminum mini-channel solar thermal collectors that use flat mini-channels or tiny tubes, as opposed to a conventional, copper flat-plate collector. The mini-channel technology increases the surface area exposed to sunlight for heat transfer, which improves the efficiency of the collector.
- University of California-Davis’ Western Cooling Efficiency Center developed a portable automated process for sealing gaps and tightening the envelope of a building.
- Renewable Energy for Agriculture Program: June 2019, the California Energy Commission awarded nearly \$9 million for solar energy and electric vehicle fast chargers on farms, orchards, vineyards, and other facilities in top agricultural counties.

Idaho

Several companies and Idaho utilities are investing in small and large scale renewable energy projects in Idaho. For example:

- The Cat Creek Energy & Water Storage Power Station which aims to generate a total of 380 MW of power through a combination of wind, solar, and floating solar arrays. This project includes 720 MW of pumped storage hydropower. Cat Creek Energy advances 720 MW pumped storage hydro project, HYDRO REVIEW (January 18, 2022), <https://www.hydroreview.com/hydro-industry-news/cat-creek-energy-advances-720-mw-pumped-storage-hydro-project/>.
- Jackpot Solar, a 120 megawatt solar farm. Duke Energy, *Duke Energy Sustainable Solutions announces construction of Idaho’s largest solar project* (April 28, 2022), <https://news.duke-energy.com/releases/duke-energy-sustainable-solutions-announces-construction-of-idahos-largest-solar-project> (last visited Aug. 12, 2022).
- Idaho Power Emissions Reduction Plan:
 - Idaho’s largest electricity provider, Idaho Power, has established medium and long-term GHG reduction targets through its 2021 Integrated Resource Plan. This plan is a definitive resource planning exercise that outlines Idaho Power’s preferred energy portfolio. It includes an addition of 700MW of Wind, 1,405 MW of solar, and 1,685 MW of energy storage capacity. Idaho Power aims to eliminate methane gas for power generation by the year 2034 and to provide 100% clean energy by 2045.

EXHIBIT B

Affidavit of Gregory Lander, President Skipping Stone, LLC

I declare under penalty of perjury that the following is true and correct to the best of my knowledge and belief:

My name is Gregory Lander. I am President of Skipping Stone, LLC an energy-only management and logistics consulting firm. My CV is attached as Exhibit GML-1. I have been retained by the State of Washington's Office of Attorney General to review the Application of Gas Transmission Northwest (GTN) for its GTN Express Project CP22-002 filed October 4, 2021 (GTNX Application). This declaration does not address any expected decline in gas usage in the Pacific Northwest or in California as a result of state and national climate policies, or how those trends could impact need for the GTNX project.

Based on my research, there are issues concerning whether existing customers are subsidizing GTN's expansion project and whether there is market need for the GTNX project. Regarding subsidization, GTN replaced the three compressor stations that this project relies on in 2020 using the Commission's Prior Notice procedures for "like for like" replacements that do not expand pipeline capacity. This appears inappropriate since GTN replaced the compressors with substantially larger compressors, while smaller compressors were available. When all or part of the cost of the larger compressors are included in the GTNX project cost, the incremental rate for new customers would be considerably higher than the current recourse rate for both existing customers and the rate used by GTN for the incremental customers.

Regarding market need, GTN relies on Integrated Resource Plans ("IRP") for two utility customers, Cascade and Intermountain. While GTN claims Cascade is faced with "peak day supply shortfalls in central Oregon, expected as early as 2024," Cascade's IRP does not project a Cascade-system-wide capacity shortfall until 2040.¹ Intermountain's IRP states the GTN capacity will replace existing capacity on the Northwest Pipeline. Thus, Intermountain's contract with GTN is not serving a new market need. Intermountain's decision to replace capacity on other pipelines with capacity on GTN may be in part because GTN's existing customers are subsidizing the GTNX expansion.

Review of GTN Prior Notice Filings:

¹ Cascade's projections in its 2020 IRP also does not take into account "carbon legislation [and] building code legislation" that took effect after the 2020 IRP was published. Cascade noted that its future projections were "particularly difficult" because of these uncertainties, among other uncertainties. IRP at 3-21.

1 The GTNX Application involves uprating of three GTN compressor units located at compressor stations
2 denominated as the Athol, Starbuck and Kent stations; each unit was previously installed as
3 “replacement” activities undertaken pursuant to Prior Notice Filings made on March 10, 2020.

4 In the March 10, 2020 notices, (Kent Replacement (CP20-82), Starbuck Replacement (CP20-86), and
5 Athol Replacement (CP20-82)), GTN proposed to replace, at each location, a Rolls Royce Avon
6 reciprocating 14,300 Horsepower (HP) unit with a Solar Titan 130 23,470 HP unit that would, for each,
7 be programmed to have operational limits of 14,300 HP; the HP rating of the units being “replaced”.
8 GTN’s notice stated the replacement units were “the nearest reliable size available to the unit being
9 replaced.” GTN reported the costs for the Kent, Starbuck and Athol units to be approximately \$79 MM,
10 \$90 MM, and \$82 MM respectively. The total, GTN estimated, cost of these three “replacements” was
11 \$251 MM.

12 Simple research I performed identified the availability of Solar Mars 100 turbines with an HP rating of
13 15,900²; a rating much closer to the 14,300 HP of the Rolls Royce units being “replaced” than the 23,470
14 HP rating of the GTN-chosen Solar Titan 130 units. I did not research the availability of similarly sized
15 electric compressor units, but these also may be available.

16 GTN states that it held an “Open Season” for 250,000 Dth per day of capacity from Kingsgate to Malin in
17 the late summer of 2019; approximately nine months prior to the three Prior Notice, “replacement”,
18 submissions. Thus, when GTN applied to “replace” the three existing compressor stations in 2020, it
19 already had contracted to expand capacity on its pipeline, which it planned to do by uprating these
20 three compressor stations.

21 **Review and Analysis of GTNX Project’s Proposed Recourse Rate:**

22 In the GTNX Application, GTN stated that the “upratings” to be achieved by “reprogramming” and other
23 modifications would increase GTN capacity to Malin from Kingsgate by 150,000 Dth per day. GTN also
24 stated that the cost of the GTNX Project would be \$75.1 MM. This cost does not include any of the \$251
25 MM of replacing the Athol, Starbuck, and Kent stations in 2020. GTN further stated that the estimated
26 annual cost of service (COS) for the \$75.1 MM GTNX Project would be \$10.6 MM. An annual COS of

² See https://www.solarturbines.com/en_US/products/turbine-ratings.html

\$10.6 MM represents 14.12% of the total project cost. I refer to the 14.12% ratio as the “Annual Recovery Factor.” See Table 1 below:

Table 1

Attribute	Project Cost	GTN stated GTNX Cost of Service	Annual Recovery Factor
GTN GTNX Application	\$75,100,000	\$10,604,120	0.1412

Also, in the GTNX Application, GTN requested “rolled-in” treatment of the 150,000 Dth per day capacity addition.³ Rolled-in treatment of expansion capacity can be appropriate when the expansion Project’s revenues, at recourse rates, exceed Project COS. I discuss this issue, in detail, below.

GTN is a path-mileage-rate pipeline. This means that recourse rate shippers with maximum rate contracts pay the sum of a “per Dth per mile” rate for the full path of their capacity rights plus a per Dth non-mileage rate. Based upon GTN’s tariff rate for FTS-1 service, the per Dth-Mile rate is \$0.000362 per Dth per mile (times the path mileage) and the non-mileage rate is \$0.028612 times the Dth per day along the path. For the 612.46-mile path from Kingsgate to Malin, the maximum recourse rate is \$0.250323 per Dth per day (i.e., 612.46 times \$0.000362 = \$0.221711 mileage component plus \$0.028612 non-mileage component for a total of \$0.250323 per Dth per day).

Based on my review of the above, I calculated the incremental rate for expansion shippers using the same Annual Recovery Factor that GTN uses to determine its COS for the GTNX project (14.12%). These calculations show that, not only is rolled-in treatment inappropriate for the GTNX project facilities and capacity, but using recourse rates for the expansion capacity would result in existing, pre-expansion shippers subsidizing the project.

If the Commission determines that existing shippers should only have cost responsibility for that portion of the three “replacement” projects’ HP that corresponds to the “replaced” HP (i.e., the 14,300 HP of the three Rolls Royce units), the balance of the “replacement” projects’ costs should be allocated to the expansion project, i.e., to the GTNX Project. That is what Table 2 calculates.

³ The other 100,000 Dth per day initially offered in the “Open Season” was determined to be “existing capacity”.

Table 2

Line No.	Attributes	Replacement Project Cost	Replacement Project HP	"Replaced" HP	Expansion HP	% of Project Cost that is Expansion Cost	Expansion \$\$ (Cost X Expansion %) (b) times (f)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	Starbuck	\$90,000,000	23,470	14,300	9,170	39.1%	\$35,164,039
2	Athol	\$82,000,000	23,470	14,300	9,170	39.1%	\$32,038,347
3	Kent	\$79,000,000	23,470	14,300	9,170	39.1%	\$30,866,212
GTNX Project Cost							
4	GTN Xpress	\$75,100,000				100.0%	\$75,100,000
5	Total Capital Cost for GTN Express assuming "replacement" is justified						\$173,168,598

Table 3 calculates the indicative incremental rate for the GTNX Project using the simple Annual Recovery Factor from Table 1.

Applying the Table 2 costs and the Table 1 Annual Recovery Factor, the GTNX Project should have an incremental rate of \$0.4466 and not the existing GTN recourse rate of \$0.250323. This calculation is shown in Table 3, below.

Table 3

	Appropriate GTNX Project Cost	Annual Recovery Factor	GTNX Cost of Service	Capacity	Days	Cost of Service Daily Rate (Incremental)
	(a)	(b)	(c)	(d)	(e)	(f)
Alt View Expansion as Incremental Project not rolled-in	\$173,168,598	0.1412	\$24,451,406	150,000	365	\$0.44660

On the other hand, the Commission may find that the "replacements" were not justified because GTN violated the Commission's "like for like" replacement policy and inappropriately masked its planned expansion as a replacement, to be paid for by captive customers. In that case, the Commission may determine existing shippers should only bear the costs from the remaining undepreciated plant costs⁴

⁴ Undepreciated plant costs are the costs associated with installing and purchasing the unit, which the company has not yet recovered through its rates.

from the Rolls Royce units. The expansion shippers would bear all of the costs above the remaining undepreciated plant costs from the "replaced" units.

For purposes of analysis, I assume each Rolls Royce unit had \$5 MM of undepreciated plant costs. The two Tables below calculate the revised view of incremental project costs as well as indicative incremental rates based upon such assumptions.

Table 4

Line No.	Attributes	Replacement Project Cost	Undepreciated Rolls Royce Unit Credit	Expansion \$	% of Project Cost that is Expansion Cost	Expansion \$\$ (Cost X Expansion %) (b) times (f)
	(a)	(b)	(c)	(d)	(f)	(g)
1	Starbuck	\$90,000,000	\$5,000,000	\$85,000,000	100.0%	\$85,000,000
2	Athol	\$82,000,000	\$5,000,000	\$77,000,000	100.0%	\$77,000,000
3	Kent	\$79,000,000	\$5,000,000	\$74,000,000	100.0%	\$74,000,000
GTNX Project Cost						
4	GTN Xpress	\$75,100,000	\$0	\$75,100,000	100.0%	\$75,100,000
5	Total Capital Cost for GTN Express assuming "replacement" is NOT justified					\$311,100,000

Table 5

	Project Cost Where Existing Shippers bear Only Remaining Plant Cost of Replaced Units	Annual Recovery Factor	Revised Incremental Cost of Service	Capacity	Days	Cost of Service Daily Rate (Revised Incremental)
	(a)	(b)	(c)	(d)	(e)	(f)
Incremental Project where Replacements not Justified	\$311,100,000	0.1412	\$43,927,320	150,000	365	\$0.80233

It is important to note that the three shippers on the GTNX Project all have agreements with negotiated rates. This means neither they nor their customers (in the case of the Local Distribution Companies) will pay these incremental rates. Rather, these rates, times the subscription quantities, will be used as

1 revenues crediting GTN's cost of service in future GTN rate cases. In other words, GTN will bear the costs
2 associated with the difference between its negotiated rates and the correct incremental rates.

3 **Review of Integrated Resources Plans for Cascade Natural Gas and Intermountain Gas in assessing**
4 **GTNX Project "Need":**

5 Cascade Natural Gas

6 In the GTNX Application, GTN cites to the Integrated Resource Plans (IRPs) of two of the shippers that
7 subscribed to the GTNX Project. GTN, at page 11 of the GTNX Application specifically cites to the
8 Cascade Natural Gas Corporation 2020 IRP and states "Cascade is faced with peak day supply
9 shortfalls in Oregon, expected as early as 2024, as well as an annual average load growth rate of
10 2.12% in Zone GTN of Cascade's system, a collection of citygates served by GTN."

11 I reviewed Cascade's GTN Capacity subscription as presented in GTN's Index of Customers (IOC)
12 filing with the FERC for January 2022.⁵ The index shows that, for the portion of Cascade's system
13 that it refers to as the "Zone GTN"⁶, the firm GTN capacity in the counties that appear to be those
14 comprising the Zone GTN is 42,223 Dth per day. Page 1 of Exhibit GML-3 has the Cascade January
15 2022 Index of Customers data for GTN which shows this derivation. Then, assuming Cascade's Peak
16 Day in 2023 equals this 42,223 Dth per day capacity, and assuming the 2.12% average annual load
17 growth from 42,223 Dth per day, Page 2 Exhibit GML-3 shows that even extending 2.12% annual
18 growth to 2040, the 2040 Peak day is 60,316 Dth per day, an increase of approximately 18,000 Dth
19 per day over the 17-year period from 2023 to 2040. This compares to the 20,000 Dth per day
20 subscription level of Cascade to the GTNX Project. In other words, Cascade does not project needing
21 the full 20,000 Dth/d it contracted for in the next 17 years.

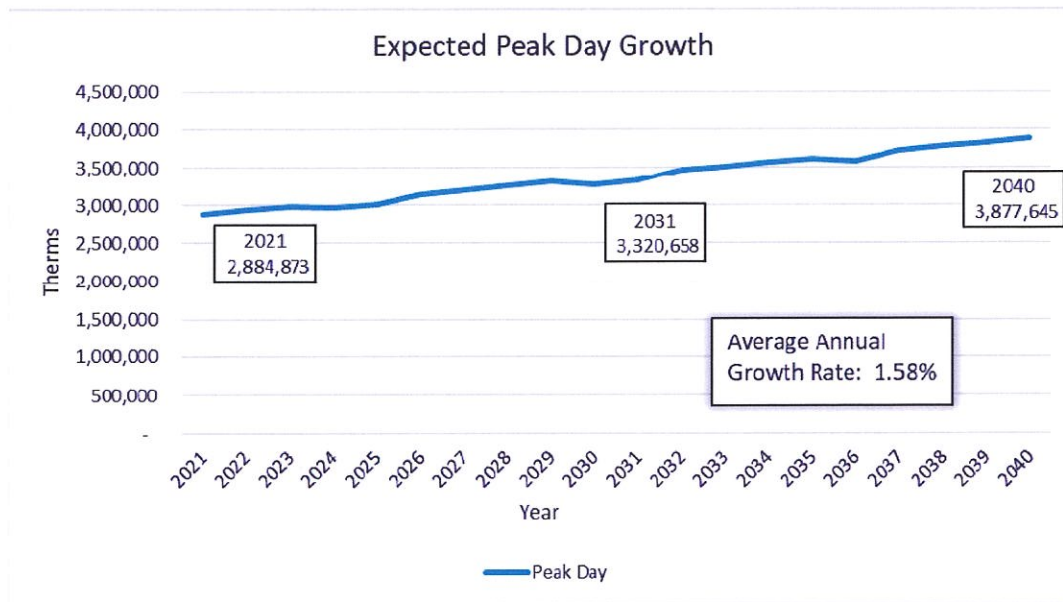
22 In another section of the Cascade's IRP, Cascade provides a chart of its projected Peak Day Load
23 Growth. That Chart is below as Table 6. Note that a Dth measure is 1/10th of the Therm measure
24 shown in Cascade's Chart.

⁵ FERC Regulations require every Pipeline and Storage company, that is federally regulated, post a listing of all its firm customers every quarter. Such filings list firm contract quantity and the firm receipt and delivery quantities by location. Capacity Center, a brand of Skipping Stone, has collected and processed IOC data for the past 15 years. Capacity Center cross-references such point level data to the pipelines' point lists posted on their Informational Postings sites, and supplements the IOC data with the state and county of the pipeline location.

⁶ See Exhibit GML-2 for two maps; one from Cascade's IRP showing its "GTN Zone"; and, one of Oregon, showing Oregon counties. GML-2 also has Cascade's citygates denominated as being in the GTN Zone.

1

Table6. Cascade Chart from 2020 IRP
Figure 3-15: Expected System Peak Day Growth (Volumes in Therms)



2
3

4 In researching Cascade’s total contracted capacity on Northwest Pipeline (NWPL) and GTN, figures taken
 5 from the NWPL and GTN IOCs for January 2022 show that Cascade’s total Firm Capacity is 596,181 Dth
 6 per Day. This is made up of 512,020 on NWPL and 84,161 on GTN. Measuring this against Cascade’s
 7 projected Peak Day, Cascade does not forecast getting even close to the current level of subscribed
 8 capacity versus its forecasted level of Peak Day prior to 2040. Its 2040 forecasted Peak Day is 387,764.5
 9 Dth per day compared to the 596,181 Dth per day that it currently has under contract. Thus, given that
 10 the above calculations of the Oregon portion of Cascade’s system show Cascade won’t require the full
 11 20,000 of subscribed GTNX capacity prior to 2040; and its entire system looks to be satisfied with
 12 existing capacity, there could well be alternative ways of meeting its Oregon-only needs by contracting
 13 for delivered gas supplies from shipper(s) holding GTN capacity, which GTN shipper(s) do not have
 14 “native load” but are rather merchants holding capacity on GTN which encompasses Cascade’s Oregon
 15 service territory. Alternatively, electrification combined with Energy Efficiency could reduce, and
 16 possibly eliminate, the projected 2.12% annual growth in peak demand.

17 Intermountain Natural Gas

18 With respect to the subscription of Intermountain Gas Corporation, GTN at page 12 of the GTNX
 19 Application states: “Intermountain has recently restructured its interstate firm transportation
 20 capacity portfolio by replacing firm transportation capacity on the Northwest Pipeline from the

Rockies to Idaho with firm transportation capacity from Northwest Pipeline’s interconnect with GTN, located in Stanfield, Oregon, to Southern Idaho.” In other words, IGC’s subscription does not appear to serve growing markets but is a replacement of supply source(s) in the Rockies for supply source(s) in Alberta, Canada.

The Intermountain 2021 IRP forecasts a deficit with its existing resources. As can be seen, from their chart (see below Table 7) IGC projects to have no capacity shortfall prior to winter of 2025/2026. The High case deficit in 2026 appears to be 63,449 Dth. The jump from 0 in 2025 to the 2026 value is not explained in the text accompanying the chart. It may be due to a 2025 expiration of an NWPL contract. All other IGC contracts on GTN and NWPL expire after mid-2035.

Total Company Design Weather - Peak Day SENDOUT (Core+LV-1) Deficit Under Existing Resources (Dth)						
Growth Scenario	2021	2022	2023	2024	2025	2026
Low	0	0	0	0	0	10,828
Base	0	0	0	0	0	42,147
High	0	0	0	0	0	63,449

Table 7. IGC IRP Page 126

It is also noteworthy that IGC’s 2021 Base Case Peak day sendout forecast showed less peak day demand than its 2019 Base Case Forecast. See below Table. The abbreviation “TC” stands for “Total Company”.

2021 IRP LOAD DEMAND CURVE – TC USAGE DESIGN BASE CASE			
Over/(Under) 2019 IRP (Dth)			
Peak Day Sendout			
	Core Market	Firm CD ¹	Total
2021	(8,836)	(6,365)	(15,201)
2022	(8,825)	(6,743)	(15,568)
2023	(11,203)	(7,451)	(18,654)
¹ Existing firm contract demand includes LV-1 and T-4 requirements.			

Table 8. IGC IRP Page 127

This change in demand forecast, while instructive, also underlines that IGC is not subscribing to the GTN capacity to meet growing demand, but rather, to replace a supply source to feed its NWPL capacity.

Upstream Need for GTN's Project

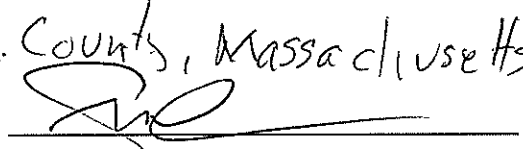
GTN has described this project as in part a “supply push” project.⁷ Generally, producers will subscribe to expansion projects in order to get their gas out of a production area and “push it” to demand locations where they believe that the net value (price) to them of selling at the demand location (and taking into account the cost of getting to that demand location) will be better than selling to others with pipeline capacity out of the supply area. Once a producer subscribes to such capacity to reach the better-priced demand location, the producer will “drill to fill” such capacity, as well as drill to offset production declines from older wells. Thus, having committed to such capacity, production will increase to fill such capacity. When producers subscribe to expansion project capacity as described immediately above, that sort of subscription is referred to as a “supply-push” project or pipeline.

In its Motion to Intervene, Tourmaline, a natural gas producer, described its capacity purchase on GTN Xpress as a “critical element to its long-term business planning.” When a producer describes a project as

⁷ See TC Pipelines Q3 2019 Earnings Call Transcript (Nov. 7, 2019), available at: [TC Pipelines L P \(TCP\) Q3 2019 Earnings Call Transcript | The Motley Fool](#)

1 "critical to its long-term business planning," it means that to optimally grow its revenue/profit (i.e., its
2 business plan), it has to drill more wells and sell more gas at the better-priced demand location(s).

3 This completes my Affidavit.

4 Executed this 17 day of August, 2022 in Essex County, Massachusetts
5 
6 Gregory Lander

Greg Lander, President
Skipping Stone LLC

Professional Summary:

As President of Skipping Stone Inc., Greg Lander is responsible for Strategic Consulting in the mergers and acquisition arena with numerous clients within the energy industry. Generally recognized in the energy industry as an expert, he has advised and/or given testimony at numerous Federal Energy Regulatory Commission (FERC), State, arbitration, and legal proceedings on behalf of clients and has advised as well as initiated standards formation before the Gas Industry Standards Board (GISB) (predecessor to the North American Energy Standards Board (NAESB)). As Founder, President, and Chief Technology Officer of TransCapacity Limited Partnership, he was responsible for conceiving, planning, managing, and designing Transaction Coordination Systems utilizing Electronic Data Interchange (EDI) between trading partners. As a founding member of GISB, he assisted in establishing protocols and standards within the Business Practices, Interpretations and Triage Subcommittees.

Professional Accomplishments:

- Handled all Due Diligence for purchaser (Loews Corp) in acquisitions of two interstate pipelines, one natural gas storage complex, and ethylene distribution and transmission systems (Texas Gas Transmission, Gulf South Pipeline, Petal Storage, Petrologistics, and Chevron Ethylene Pipeline) most in excess of \$1 Billion. Developed purchaser's business case model, including rate/revenue models, forward contract renewal models, export basis modeling and revenue models, and operating cost and capex models. Coordinated Engineering and Environmental Due Diligence Teams integrating findings and assessments into final Diligence Reports.
- Assisted major electric retailer in 9 states with business case development for entry into North Eastern U.S. Commercial & Industrial natural gas marketing business. Identified market share of incumbents; retail registration process, billing processes; utility data exchange rules and procedures and developed estimates of addressable market by utility.
- Handled all economic Due Diligence for purchaser of large minority stake in Southern Star Gas Pipeline. Developed purchaser's business case model, including rate/revenue models and forward contract renewal models, assessed potential competitive by-pass of asset located in "pipeline alley", developed revenue models and operating cost and capex models. Coordinated Engineering, Pipeline Integrity, and Environmental Due Diligence Teams integrating findings and assessments into final Diligence Reports.
- Developed post-acquisition integration plans for inter-operability and alterations to system operations to take advantage of opportunities presented by

synergistic facilities' locations and functions and complimentary contractual requirements. Implementation of plan resulted in fundamental changes to systems operations and improvement in systems, net revenues, capacity capabilities, and facilities utilization.

- Handled all economic analysis, modeling, and systems capability due diligence for potential purchaser in several preliminary or completed yet un-consummated pre-transaction investigations involving Panhandle Eastern, Northern Border, Bear Paw, Florida Gas, Transwestern, Great Lakes, Guardian, Midwestern, Viking, Southern Star, Columbia Gas, Midla, Targa (No. Texas), Ozark, ANR, Falcon Gas Storage, Tres Palacios, Rockies Express, Norse Pipelines, Southern Pines, Leaf River, LDH (Mont Belvieu), Kinder Morgan Interstate, Trailblazer, Rockies Express and South Carolina Gas Transmission.
- Post Texas Gas Transmission and Gulf South Pipe Line acquisitions, assisted with all investigations involving assessments and proposals for realizing potential synergies with/from asset portfolio; rate case strategy development and alternate case development; and strategies around contract renewal challenges.
- Headed up due diligence team in acquisition of multi-state retail (residential) natural gas and electric book by Commerce Energy.
- Headed up due diligence team in acquisition of multi-state retail (C&I) natural gas book by Commerce Energy.
- Served as lead consultant for consortium of end-users, Local Distribution Companies, Power Generators, and municipalities in several major FERC Rate Cases, service restructuring, and capacity allocation proceedings involving a major Southwestern U.S. Pipeline.
- Expert witness in numerous gas and electric utility rate cases; integrated resource plans; litigated service offerings and cost approval and allocation proceedings for public interest clients. Controversies, often involving hundreds of millions to billions of dollars over cases' time horizons, are common.
- Assessed level of existing capacity available to serve New Jersey market versus need for new greenfield pipeline to serve same market.
- Served as lead consultant and expert witness for consortium of end-users, Local Distribution Companies, Power Generators, and municipalities in major FERC rate case under litigation involving decades-long disputes over service levels, cost allocation, and rate levels.
- Served as lead consultant for consortium of end-users and municipalities in major FERC rate case involving implementation of proposed rate design, cost allocation, and rate level changes.
- Developed and critiqued Rate Case Models for several pipeline proceedings and proposed proceedings (as consultant variously to both pipeline and shippers). Activities included modeling (and critiquing) new services' rates,

costs, and revenues; responsibilities included development of various alternative cost allocation/rate designs and related service delivery scenarios.

- Handled all market assessment, forward basis research, and transportation competition modeling for several proposed major pipelines and laterals, including two \$1 Billion+ Greenfields projects that went into construction and operation providing new outlets for growing southwestern shale production. (Gulf Crossing and Fayetteville Lateral).
- Assessed supply and demand balance for Southwestern US (OK, TX, Gulf Coast and LA) including assessment of future demand and supply displacement associated with West Texas wind power development and its likely impact on pipeline export capacity from region.
- Assessed supply and demand balance for Northeast to Gulf Coast capacity additions including assessment of Gulf Coast demand and export growth and its likely impact on forward basis.
- Assessed start-up gas supply needs for Appalachian coal fired power plant, resulting in installation of on-site LNG storage and gasification to address lack of enough firm pipeline capacity to meet need.
- Assessed installed and projected wind-turbine capacity in ERCOT and its eventual impact on Texas electric market as wind power output approaches minimum ERCOT load levels.
- Designed and developed EDI based data collection system, data warehouse and web-based delivery system (www.capacitycenter.com) for delivering capacity data collected from pipelines to shippers, marketers, traders, and others interested in capacity information to support business operations and risk-management requirements.
- Designed pipeline capacity release deal integrating settlement system for firm users, including design and development for information services delivery on a transaction fee basis.
- Assisted client in developing proposals to increase pipeline capacity responsiveness and proposed market fixes that would create price signals around sub-day non-ratable flows, including rate proposals, sub-day capacity release markets, and measures to address advance reservation of capacity for electric generation fuel to meet sub-day generation demands.
- Developed “universal capacity contract” data model for storage of all interstate capacity contract transactions from all 60 major interstates in single database.
- Led design effort culminating in FERC-mandated datasets defining pipeline capacity rights, (including receipt capacity, mainline capacity, delivery capacity, segmentation rights, in and out of path capacity rights), Operationally Available Capacity, Index of Customers, and Transactional Capacity Reports (through GISB).

- Assembled consortium of utilities to investigate and develop large high-deliverability salt storage cavern in desert southwest (Desert Crossing). As LLC's Acting Manager, was responsible for developing business case and economic models; handling all partner issues and reporting; coordinating all field engineering, facilities design, planning and siting; and managing all environmental, legal, engineering and regulatory activities. Wrote FERC Tariff. Brought project to NEPA Pre-Filing Stage and conducted non-binding Open Season, as well as assisted with prospective shipper negotiations. Project cancelled due to 2001 "California Energy Crisis" and contemporaneous Enron and energy trading sector implosions.
- Designed comprehensive retail energy transaction and customer acquisition data model, process flow, and transaction repository for web-based customer acquisition and customer enrollment intermediary.
- Experienced in negotiation and drafting (from both seller side and buyer side) of firm supply, firm precedent, firm transportation, firm storage, and power supply and capacity agreements for numerous entities including project financed IPPs and for new greenfields pipeline and expansion of storage system.
- Conducted interstate pipeline capacity utilization analysis for New England following winter of 2013/2014 price fly-up.
- Conducted PJM East interstate gas pipeline capacity utilization and comparative analysis between pipelines with standard NAESB nominating cycles versus those with near hourly scheduling practices.
- Conducted requirements analysis for several firms pursuing software selection of energy transaction systems.
- Instrumental in the formation of the GISB. Member of industry team that lead the development of the proposal for and bylaw changes related to the formation of NAESB.
- Provided support to numerous clients and clients' attorneys in disputes involving capacity contracts, capacity rights allocations, tariffs, rate cases, and supply contract proceedings as both up-front and behind the scenes expert.

Associations and Affiliations:

Longest serving Member of Board of Directors for NAESB and prior to that GISB - 25 years.

GISB Committees: Former Chairman, Business Practices Subcommittee – drafted approximately 450+ initial industry standards that are now codified FERC regulations (Order 567); Former Chairman, Interpretations Subcommittee – drafted and led adoption process for first 50+ standards interpretations; Former Chairman, Triage Subcommittee; Title Transfer Tracking Task Force; Order 637 GISB Action Subcommittee; and industry Common Codes Subcommittee. Currently member of NAESB Wholesale Gas Quadrant Executive Committee and of NAESB Parliamentary Committee.

Past and Affiliations and Associated Accomplishments:

1981-1989: One of five initial employees of Citizens Energy Corporation, Boston Mass. Responsible for starting and growing Citizens Gas Supply, one of the first independent gas marketers of the early 1980's, into \$200MM+ annual operation. Successfully lobbied for pipeline Open Access (Orders 436 and 636), introduction of pipeline Affiliated Marketer rules of conduct (Order 497), and Open Access to pipeline operational information (Order 563).

1989-1993: Independent Consultant - Natural Gas Projects, Pipeline Rate Cases, Project Financed Contract negotiations, and Independent Power markets

1993 – 1999: Founder and President, TransCapacity Service Corp – Software products and services related to pipeline capacity trading, nomination, and contracting. Raised \$17 MM from industry player to establish TransCapacity. Successfully lobbied for Pipeline restructuring and formation of capacity release market (Order 636). Sold to Skipping Stone.

1999 – 2004: Principal and Partner, Skipping Stone – Energy market consultants

2004 – 2008: President of Skipping Stone following purchase of Skipping Stone by Commerce Energy, Inc.

2008: Repurchased Skipping Stone from Commerce Energy, Reformulated Skipping Stone as LLC with Peter Weigand

2008 to Present: President and Partner, Skipping Stone. In addition to handling book of clients, responsible for all Banking, Accounting, Operations, Risk Management and contract matters for Skipping Stone.

Education:

1977: Hampshire College, Amherst, MA; Bachelor of Arts

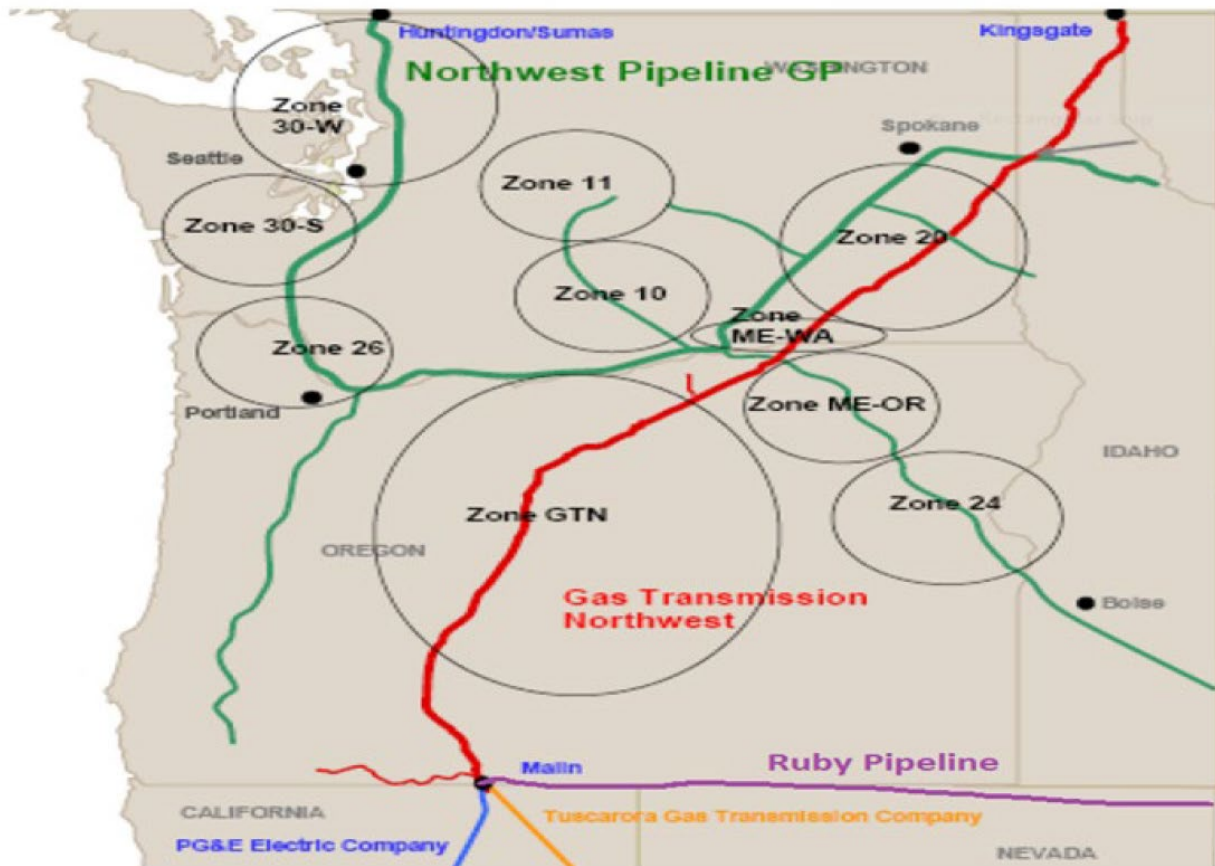
Publication:

2013: Synchronizing Gas & Power Markets - Solutions White Paper

Exhibit GML-2 State of Oregon County Map, Cascade Natural Zone map, and Cascade Natural Citygates in its “GTN Zone”



Figure 10-5: Pipeline Zones Used in this IRP



Cascade Natural Gas Corporation
2020 Integrated Resource Plan

Citygate	Loop	State	Weather Location	Zone
OTHELLO		WA	Walla Walla	20
PASCO	Burbank Heights Loop	WA	Walla Walla	20
PATTERSON		WA	Yakima	26
PENDLETON		OR	Pendleton	ME-OR
PRINEVILLE		OR	Redmond	GTN
PRONGHORN		OR	Redmond	GTN
PROSSER		WA	Yakima	10
QUINCY		WA	Yakima	11
REDMOND		OR	Redmond	GTN
RICHLAND (Richland Y)	Kennewick Loop	WA	Walla Walla	20
SEDRO/WOOLLEY	Sedro-Woolley Loop	WA	Bellingham	30-W
SELAH	Yakima Loop	WA	Yakima	11
SOUTHRIDGE	Kennewick Loop	WA	Walla Walla	20
SOUTH BEND	Bend Loop	OR	Redmond	GTN
SOUTH LONGVIEW	Longview South Loop	WA	Bremerton	26
STANFIELD		OR	Pendleton	GTN
STEARNS (SUNRIVER)		OR	Redmond	GTN
SUNNYSIDE		WA	Yakima	10
UMATILLA		OR	Pendleton	ME-OR
WALLA WALLA		WA	Walla Walla	ME-WA
WALLULA		WA	Walla Walla	ME-WA
WCT-CNG INTERCONNECT	Sumas SPE Loop	WA	Bellingham	30-W
WENATCHEE		WA	Yakima	11
WOODLAND		WA	Bremerton	26
YAKIMA CHIEF RANCH		WA	Yakima	10
YAKIMA TRAINING CENTER		WA	Yakima	11
YAKIMA/UNION GAP	Yakima Loop	WA	Yakima	11
ZILLAH (TOPPENISH)		WA	Yakima	10

Weather

Historical weather data is provided by a contractor, Schneider Electric. Historically, Cascade has accessed data from NOAA (National Oceanic and Atmospheric Administration), but found many months/locations with missing data. The current forecast uses 30 years of recent history as the normal or expected weather. The forecast model takes the 30 previous years, converts the data to heating degree days (HDDs), then averages the HDDs into average days to create a normal or expected year. Cascade has seven weather locations with four located in Washington and three in Oregon. The four locations in Washington are Bellingham, Bremerton, Walla Walla, and Yakima.

Heating Degree Days

HDD values are calculated with the daily average temperature, which is the simple average of the high and low temperatures for a given day. The daily average is then subtracted from an HDD degree threshold (for example 60 °F) to create the HDD for a given day. Should this calculation produce a negative number, a value of zero is assigned as the HDD. Therefore, HDDs can never be negative. The HDD threshold number is designed to reflect a temperature below which heating demand begins to significantly rise.¹

Peak Day HDDs

In order to ensure satisfaction of core customer demand on the coldest days, Cascade develops a deterministic and a stochastic peak day usage forecast in conjunction with annual base load forecasts. Peak day forecasts enable Cascade to make prudent distribution system and peak upstream pipeline capacity planning decisions to fulfill its responsibility to provide heating under all but *force majeure* conditions, particularly as most space-heating customers will have no alternative heating source during the coldest days in the event gas does not flow.

The deterministic peak day that was analyzed in the forecast model is a system-wide weighted HDD coldest in 30 years value.

This peak day will give Cascade the deterministic outcome with varying amounts of demand. The deterministic peak HDD methodology allows Gas Supply to plan for the highest peak event during a heating season.

System-wide maximum peak HDDs are determined by first selecting the system-wide single coldest day recorded in the past 30 years. To determine the system-wide single coldest day, HDDs from all seven weather stations are considered, giving appropriate weight to the weather stations. The weights are determined by the increase in demand experienced with an increase in one HDD. Cascade has found December 21, 1990, to have the highest, system-weighted HDD, at 56 HDDs for this period.

For SENDOUT®, Cascade uses the system-wide maximum peak HDDs method. Cascade applies the HDDs experienced on December 21, 1990, to each of the regressions in the forecast model. For example, all citygates associated with the Yakima weather station use the HDD for Yakima on December 21, 1990, and similarly for all the other weather stations and citygates. This provides a highest demand scenario for peak demand load based on 30 years of weather history for

¹ The historical threshold for calculating HDD has been 65 °F. However, as discussed in prior IRPs, Cascade has determined that lowering the threshold to 60 °F produces more accurate results for the Company's service area.

Pipeline	Shipper	PL Aff	Rate Sched	Contract ID	Start DTM	End DTM	Rollover	MDTQ	Distinct K Qty	MSQ	Agent	Pt Type	State	County	Pt Name	Pt Code	Zone	Pt MDQ	Pt MSQ	report dtm
GTN	Cascade Natural Gas Corporation	N	FTS-1	13687	4/1/2018 0:00	10/31/1939 0:00	o	10,000	10,000		Tenaska	Receipt	OR	Klamath	Turquoise Flats Meter	1049174	N/A	10,000		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	13687	4/1/2018 0:00	10/31/1939 0:00	o	10,000			Tenaska	Delivery	OR	Umatilla	Stanfield Interconnect	18503	N/A	10,000		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	13688	11/1/2014 0:00	10/31/1939 0:00	o	5,000	5,000		Tenaska	Receipt	OR	Klamath	Turquoise Flats Meter	1049174	N/A	5,000		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	13688	11/1/2014 0:00	10/31/1939 0:00	o	5,000			Tenaska	Delivery	OR	Umatilla	Stanfield Interconnect	18503	N/A	5,000		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17019	6/1/2015 0:00	10/31/1933 0:00	o	11,558	11,558		Tenaska	Receipt	ID	Boundary	Kingsgate Interconnect	3498	N/A	11,558		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17019	6/1/2015 0:00	10/31/1933 0:00	o	11,558			Tenaska	Delivery	WA	Spokane	Spokane NPC Interconnect	28201	N/A	11,558		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17021	6/1/2015 0:00	10/31/1933 0:00	o	200	200		Tenaska	Receipt	ID	Boundary	Kingsgate Interconnect	3498	N/A	200		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17021	6/1/2015 0:00	10/31/1933 0:00	o	200			Tenaska	Delivery	OR	Umatilla	Kosmos Farms Tap	159305	N/A	200		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17022	6/1/2015 0:00	10/31/1933 0:00	o	232	232		Tenaska	Receipt	ID	Boundary	Kingsgate Interconnect	3498	N/A	232		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17022	6/1/2015 0:00	10/31/1933 0:00	o	232			Tenaska	Delivery	OR	Umatilla	Stanfield City Tap	18505	N/A	232		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17023	6/1/2015 0:00	10/31/1933 0:00	o	2,409	2,409		Tenaska	Receipt	ID	Boundary	Kingsgate Interconnect	3498	N/A	2,409		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17023	6/1/2015 0:00	10/31/1933 0:00	o	2,409			Tenaska	Delivery	OR	Jefferson	Madras Tap	18430	N/A	2,409		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17025	6/1/2015 0:00	10/31/1933 0:00	o	3,811	3,811		Tenaska	Receipt	ID	Boundary	Kingsgate Interconnect	3498	N/A	3,811		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17025	6/1/2015 0:00	10/31/1933 0:00	o	3,811			Tenaska	Delivery	OR	Jefferson	Prineville Tap	18432	N/A	3,811		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17026	6/1/2015 0:00	10/31/1933 0:00	o	3,396	3,396		Tenaska	Receipt	ID	Boundary	Kingsgate Interconnect	3498	N/A	3,396		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17026	6/1/2015 0:00	10/31/1933 0:00	o	3,396			Tenaska	Delivery	OR	Deschutes	Redmond Tap	18402	N/A	3,396		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17028	6/1/2015 0:00	10/31/1933 0:00	o	13,064	13,064		Tenaska	Receipt	ID	Boundary	Kingsgate Interconnect	3498	N/A	13,064		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17028	6/1/2015 0:00	10/31/1933 0:00	o	13,064			Tenaska	Delivery	OR	Deschutes	Bend Tap	18403	N/A	13,064		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17031	6/1/2015 0:00	10/31/1933 0:00	o	3,430	3,430		Tenaska	Receipt	ID	Boundary	Kingsgate Interconnect	3498	N/A	3,430		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17031	6/1/2015 0:00	10/31/1933 0:00	o	3,430			Tenaska	Delivery	OR	Deschutes	Stearns Tap	18404	N/A	3,430		1/1/2022 0:00
GTN	Cascade Natural Gas Corporation	N	FTS-1	17033	6/1/2015 0:00	10/31/1933 0:00	o	45	45		Tenaska	Receipt								

Modeled Indicative CNGC Load Growth GTN Zone

Peak Day	
Year	Dth/d
2023	27,223 2.12% Annual Average Growth
2024	27,800
2025	28,389
2026	28,991
2027	29,606
2028	30,234
2029	30,875
2030	31,529
2031	32,198
2032	32,880
2033	33,577
2034	34,289
2035	35,016
2036	35,758
2037	36,516
2038	37,290
2039	38,081
2040	38,888

Assumes 2023 Peak Day = Subscribed capacity in GTN Zone

EXHIBIT C

GTN Xpress Project
A Critical Review of Need, Cost, and Impacts

Conducted by:

David G. Hill, Ph.D., Energy Futures Group

Earnest White, Energy Futures Group

Prepared for:

Washington State Office of the Attorney General

August 15, 2022

This expert report was prepared by David Hill and Earnest White of Energy Futures Group with review and support from Chris Neme of EFG. Any omissions or errors are the responsibility of the primary authors. Questions for the authors should be directed to dhill@energyfuturesgroup.com

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EXECUTIVE SUMMARY

Gas Transmission Northwest LLC (GTN or the Company) has applied to the Federal Energy Regulatory Commission (FERC) for a certificate of public convenience and necessity. The application requests approval to modify three existing compressor stations on GTN's gas pipeline. Upon completion, the requested upgrades would provide an incremental mainline capacity of 150,000 dekatherms (Dthm)/day on GTN's system. The proposed GTN Xpress project (GTNx) would increase the total capacity on the GTN system by approximately 4.5%. In their application GTN estimates a total cost of \$75.1 million for the proposed upgrades.

This expert report, written by David Hill and Earnest White of Energy Futures Group on behalf of the Washington State Attorney General's Office, provides a critical review of the GTNx application. We identify and assess three major areas where there are serious flaws and shortcomings in the application.

- **Need:** When considering an application for public convenience and necessity, the FERC's consideration of "need" must be based on more than the contractual arrangements for incremental capacity between gas shippers, marketers, and suppliers. The GTNx application claims, but fails to demonstrate, growing market demands and need. Indeed, the most recent integrated resource plans (IRPs) from two gas distribution companies with long term contracts for the proposed incremental capacity *do not clearly identify* the need for incremental pipeline capacity. In this expert report we provide an analysis and references to statewide studies in California and Washington concluding regional gas consumption is likely to decline in the coming decades. We also examine how meeting the region's renewable portfolio standards for electric generation will also lead to significant declines in the region's gas consumption.
- **Cross Subsidization of Costs:** The GTNx project requires use of excess compressor equipment capacity installed under three prior notice filings.¹ The costs for the excess capacity of the

¹ See [Docket No. CP20-85-000](#), Kent Compressor Filing; see [Docket No. CP20-86-000](#), Starbuck Compressor Filing; see [Docket No. CP20-82-000](#), Athol Compressor Filing.

equipment already placed into service are significant, and if reflected in the current application would more than double the cost of the proposed GTNx project. GTN's approach breaks directly related capacity expansion infrastructure investments into separate and smaller projects. This is not conducive to effective regulatory oversight, and accurate cost-recovery allocations. The costs associated with the excess capacity from the prior reliability projects are being borne by existing customers and this creates a cross subsidization from existing customers to the proposed customers for the expanded capacity now proposed in the GTNx project.

- **Adverse Impacts:** Finally, we review and discuss negative environmental, economic, and social impacts of the proposed GTNx project.
 - **Environmental:** All energy infrastructure investments need to be considered in relation to climate imperative and the need to decarbonize and reduce greenhouse gas emissions to stabilize the global climate. If approved, constructed, and used, the GTNx project will indisputably increase gas consumption and associated emissions. This increase in gas consumption and emissions is in direct opposition to the statutory and regulatory requirements for reducing emissions in three of the four states served by the GTN pipeline. Our analysis compares emissions from the existing GTN system, and the proposed GTNx expansion illustrating how emissions from the combustion of gas transported by the GTN system represents “significant” emissions, today. Although not included in our analysis, there are additional upstream and fugitive emissions associated with the increased capacity and these should also be considered. The level of significance of the existing and proposed GTN system emissions increases dramatically as total emissions in the region decline.
 - **Economic:** Investment in, and approval of, new gas pipeline infrastructure provides a long-lived return to GTN's shareholders. However, contrary to claims in the GTNx application, our analysis suggests it is also likely to create cross-subsidization from existing customers to the customers with proposed long term GTNx contracts. There are several reasons for this. First, as explained above, the filed GTNx capacity expansion application depends upon equipment already installed, and to be paid for by

existing customers, under prior “reliability” projects. Second, our analysis of the application indicates the Company plans to amortize the capital costs for GTNx over an extended period of close to 50 years. This is much longer than the terms of the 30 to 33-year precedent agreements GTN cites as justifying the need for the expansion. We provide a contrasting illustrative analysis based on a shorter (20-year) cost recovery period. This is prudent as it reduces the risk to all gas ratepayers of a stranded asset. It also significantly increases the pace and level of cost recovery for the project to be borne by the contracted shippers. Finally, if the customer base and volumes of gas on the system decline in the coming decades, as we argue is likely given policy and market conditions in the region, the revenue required to meet the fixed costs for gas infrastructure to be recovered per unit of volume and from each customer will need to increase. Adding infrastructure costs to expand the system only makes this situation worse.

- **Social:** The adverse environmental and economic impacts of the GTNx project are more likely to be experienced by economically and otherwise disadvantaged communities. We present brief examples of potentially inequitable impacts including uneven risk exposure and resilience for heat waves and other climate related events, and the likelihood that lower income customers may be least likely, and slowest, to take advantage of opportunities to switch their home space and water heating to electricity. If other customers transition away from gas, the system’s remaining customers bear a greater burden and higher costs associated with unrecovered infrastructure investments.

Based on our analyses and review of studies conducted by other parties we conclude:

- The GTNx application does not demonstrate need for the project,
- The project is likely to have adverse economic impacts on existing customers,
- The project will have significant adverse environmental impacts, and
- The project is also likely to have adverse social impacts.

We therefore recommend against issuance of a certificate of public convenience and necessity.

1.0 Introduction and Qualifications

Energy Futures Group (EFG) is a clean-energy consulting firm headquartered in Hinesburg, Vermont, with offices in Boston and New York. EFG designs, implements, and evaluates programs and policies to promote investments in efficiency, renewable energy, and other initiatives to equitably reduce energy system costs and environmental emissions. EFG staff have delivered projects on behalf of energy regulators, government agencies, utilities, and advocacy organizations in 42 states, 8 Canadian provinces, and several countries in Europe.

EFG brings to its work a unique combination of technical, economic, program, and policy expertise. EFG staff have critically reviewed and contributed to hundreds of efficiency and renewable energy programs, playing key roles in developing many that have subsequently won awards for excellence. Recent work involves efficiency program portfolios and policies in fourteen of the fifteen highest-ranking states on the ACEEE State Energy Efficiency Scorecard, as well as in Nova Scotia, New Brunswick, Ontario, Manitoba, and British Columbia. EFG staff have provided expert witness testimony on efficiency programs, integrated resource planning, and related policy issues in regulatory proceedings in twenty states and five Canadian provinces.

David Hill is a Managing Consultant with EFG. With more than 30 years' experience in the clean energy industry working with hundreds of clients and programs throughout the U.S. and Canada, he is highly regarded as a thought leader, advocate, and team leader. Over the years David has specialized in leading the development of solar and renewable energy initiatives and studies in New Jersey, New York, Vermont, the District of Columbia, and Pennsylvania. Recently his work has focused on scenario planning and economy wide decarbonization initiatives, providing analytic foundations for sustained and equitable transitions. David was a founding board member of Renewable Energy Vermont, and he served terms as the chair for that board as well as for the American Solar Energy Society. He currently works with clients in California, Delaware, Vermont, Rhode Island, and Nova Scotia. Prior to joining EFG, David worked at the Vermont Energy Investment Corporation for 22 years.

Earnest White is a Senior Consultant with Energy Futures Group. He brings nearly 15 years of private- and public-sector energy industry experience that has spanned utility cost modeling, capacity expansion planning, energy market modeling, and regulation.

Earnest started his career in energy consulting for utilities and wholesale power traders operating in the US, Canada, and Mexico. As a regulatory analyst on the staff of the Virginia State Corporation Commission, he analyzed and provided testimony on several integrated resource plans, renewable portfolio standard petitions, utility-scale solar certifications, general rate cases, and retail choice. As a member of the commission staff, Earnest participated in stakeholder groups implementing Virginia's future clean energy transition.

2.0 Existing and Proposed GTN Capacity

GTN filed an application and exhibits for a certificate of public convenience and necessity for the GTN Xpress project with the FERC on October 4, 2021.² The proposed project will create 150,000 dekatherms of incremental mainline capacity on the GTN system. The new capacity would be provided through “(i) modifications to the existing No. 5 Athol, No. 7 Starbuck, and No. 10 Kent Compressor Stations and (ii) installation of various appurtenant and auxiliary facilities.”³ The application states the project will “meet increased market demand driven by residential, commercial, and industrial customers in the Pacific Northwest region of the United States while also providing supply reliability to the Pacific Northwest and West Coast regions as natural gas supplies coming from the Rockies region of the United States declines.”⁴

The proposed GTNx project would increase the capacity of the existing GTN system⁵ by roughly 4.5% as illustrated in Figure 1.

² The application is being considered under Federal Energy Regulatory Commission Docket CP-2-000.

³ Gas Transmission Northwest, LLC, Before the Federal Energy Regulatory Commission, ABBREVIATED APPLICATION FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY GTN XPRESS PROJECT, Volume 1: Application and Exhibits, Filed October 4, 2021. Page 1.

⁴ Ibid. p. 1-2.

⁵ TransCanada GTN System Overview states that more than 2.1 billion cubic feet per day can be delivered to California and up to 1 billion cubic feet per day to the Pacific Northwest.

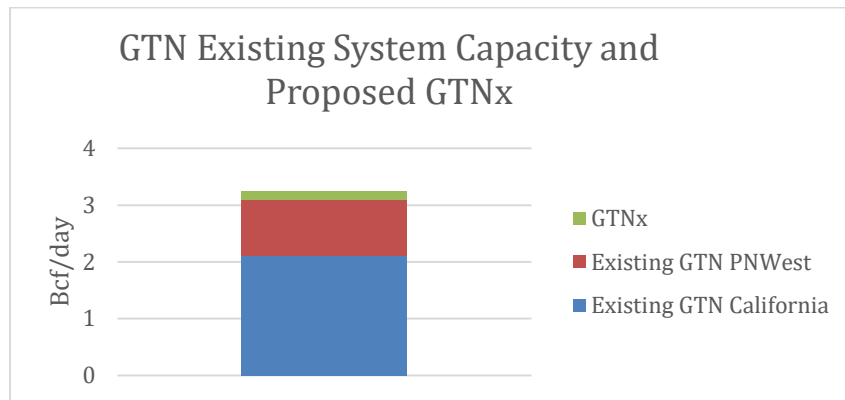


Figure 1: GTN Existing and Proposed Capacity

To place the GTN system and the proposed GTNx expansion in context of gas consumption in the region, Figure 2 illustrates regional gas consumption in 2020 and compares this to the GTN system capacity existing and with GTNx, based on an assumed annual load factor of 75%.⁶

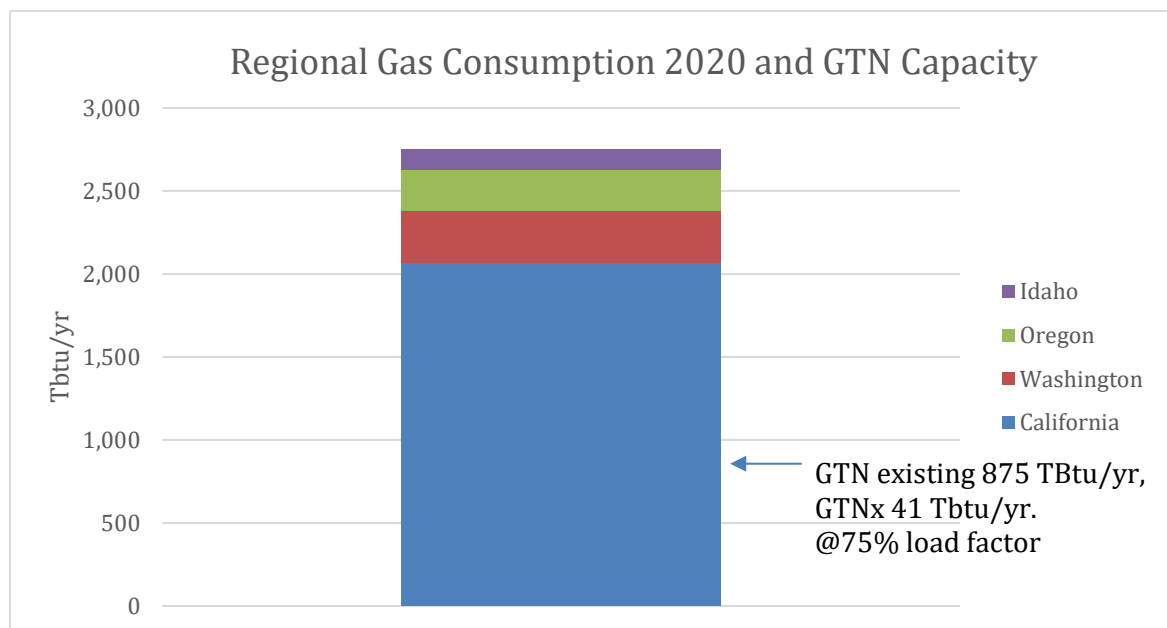


Figure 2: Regional Gas Consumption and GTN Capacity

⁶ A “load factor” is an indication of the share of the total capacity that is used over the course of a year. We adopt a 75% load factor here, based on the GTN Xpress Project Application, Volume 1: Exhibit N which uses a 75% load factor for estimating delivery billing determinants.

From these two figures we observe: a) the GTNx project, if approved, represents a relatively small increase (<5%) in the GTN system capacity, and b) with, or without, the GTNx project the GTN system has capacity to serve roughly one third of the region's current gas consumption. The Company's claims with respect to "need" for the incremental capacity provided by the GTNx should be critically considered within this context.

3.0 The Need for Proposed GTNx Incremental Capacity

3.1 GTN's Justification of Need is Inadequate

In the Background & Proposal section of the application, the Company states it formulated the GTNx project in response to rising demand for gas supplies in various areas served by GTN and its customers. The willingness of three project shippers (Cascade, Intermountain, and Tourmaline) to sign 30-year precedent agreement (PA) contracts for transportation service is presented in the application as indication of need. There are several major flaws with this premise.

1. Regional gas consumption is likely to decline, due to reductions in gas-fired electric generation, and due to increasing electrification of building space conditioning and water heating needs. Any need for incremental capacity on a system needs to account for trends and patterns in total system consumption. As noted above GTNx, if approved, would increase the total GTN system capacity by less than 5%, and the total regional gas capacity by roughly 1.5%. Analyses and evaluation of the "need" for the incremental capacity that would be provided by GTNx needs to include consideration of the 95% to 98.5% of the consumption and capacity in the rest of the gas system. As an analogy, it is necessary to understand the size of the cake coming out of the oven before one can determine the "need" for the icing. We discuss regional space heating and water heating consumption trends and examine the anticipated reductions in gas use for electric generation in sections 3.2 and 3.3 of this white paper.
2. Demand forecasting and planning for gas distribution companies needs to account for an increasing adoption of electrification, particularly for new construction. The integrated resource plans (IRPs) for Cascade and Intermountain contain demand

forecast methods that, roughly speaking, equate growth in population, households, and businesses with increased gas consumption.⁷ Cascade’s demand forecast model does not contain variables to reflect choice among new technologies and market opportunities for customers to choose electric heat pumps for space conditioning, water heating and electric stoves for cooking.⁸ The Intermountain IRP states “customer growth is the primary driving factor in the five year demand forecast” and their forecast anticipates that 96% or more of all “reachable” new homes will be gas customers.⁹ The demand forecasts for both companies do not reflect potential reductions in new gas hookups due to customer choice and market dynamics, the potential for existing customers to electrify, nor the potential for local and/or states to limit or prohibit gas service for new construction.¹⁰ In stark contrast to the demand forecasting for Cascade and Intermountain, a recent study conducted for the Northwest Energy Efficiency Alliance, found a dramatic shift towards electricity and away from gas as the primary fuel choice for space and water heating in Washington’s residential new construction market. The study found that in 2015 79% of residential new construction chose natural gas for primary space heating (1% used propane) and 61% used natural gas for water heating. In a complete reversal, today, in response to new code requirements and changes in the market and technologies for heat pumps, approximately 90% of residential new construction in Washington is choosing electricity instead of gas as the primary fuel for space and water heating equipment.¹¹ Similar shifts in new construction markets

⁷ See demand forecast discussion on pages 3-6 ff of the Cascade Natural Gas Corporation 2020 Integrated Resource Plan, February 26, 2021. The Intermountain Gas Company discusses Residential & Commercial Customer Growth Forecast on pages 9 ff.

⁸ Cascade IRP p. 3-8 provides the dynamic regression equation used to forecast customer growth. Figure 3-11 and accompanying text indicate “load growth is primarily a result of increased customer counts” p. 3-15.

⁹ Intermountain IRP, page 9 and Figure 8 Market Penetration Rate by District p. 21.

¹⁰ The Cascade 2020 IRP mentions local greenhouse gas mitigation measures and initiatives underway in Bellingham, WA and Bend OR. The City of Boise, served by Intermountain, has recently adopted a Climate Action Plan with a climate neutral target by 2050. Additional references to local initiatives include, Wash. Admin. Code § 51-11C-40314 (2023); Seattle, Washington, Seattle Energy Code § C404.2.3 - C503.5 (2021); Bellingham, Wa., Adoption By Reference § 17.10.01 (2022); Shoreline, Wa., Commercial Energy Code Amendments § 15.05.090 (2021). See also Kristiana Faddoul, California’s Cities Lead the Way on Pollution-Free Homes and Buildings, Sierra Club (July 22, 2021).

¹¹ **Northwest Energy Efficiency Alliance** Washington Residential Post-Code Adoption Market Research: Final Report, May 26, 2022. Prepared by TRC Engineer. Figure 5, p. 10-11.

and codes can be expected throughout the region. These findings, suggest neither the Cascade nor Intermountain IRP adequately account for emerging growth in levels of building electrification in new construction. Therefore, both IRP demand forecasts are likely to be high under all the potential growth scenarios.

3. However, even if these shortcomings in the demand forecasts for the IRPs are set aside, ***neither the Cascade nor Intermountain IRP clearly identify a need for the incremental GTNx capacity.*** Results of the modeling for the Cascade IRP indicate “The top-ranked candidate portfolio includes all existing resources, consideration of incremental NOVA gas transportation and Spire Storage, plus incremental demand side management (DSM).”¹² The description of the modeling makes it clear that “incremental transportation capacity on NWP, Ruby, Nova Gas, Foothills and GTN pipeline systems was considered but not considered cost effective or optimal in comparison with other resource options.”¹³ In the Resource Integration discussion Cascade indicates that 10,000 Dth/day of GTN capacity expected to be acquired in 2023 contributes to the plan not forecasting any potential shortfalls over the entire planning horizon for the “As-Is” modeling.¹⁴ While it is unclear if this is a direct reference to the proposed GTNx capacity expansion, we note that in any case it would only represent only one-half of the application’s proposed 20,000 Dth/day for Cascade in the Company’s application. Highlights for Cascade’s 2020 IRP Action Plan indicate that “Cascade will develop scenarios around municipal natural gas bans or other deep decarbonization possibilities in Cascades service territory”¹⁵, but says nothing about the need for additional expanded capacity from GTN or GTNx.¹⁶

The 2019 Intermountain IRP, cited in the Company’s application, identifies relatively small peak day delivery shortfalls on specific laterals or geographical areas. These shortfalls are on the local distribution systems, and do not indicate overall supply

¹² Cascade IRP p. 1-11.

¹³ Ibid. p. 1-11, and p. 4-13.

¹⁴ Ibid. p. 10-22.

¹⁵ Ibid. Figure 1-1, p. 1-13.

¹⁶ Cascade cited incremental energy efficiency, storage, and other capacity options as reasons why its customers were capacity sufficient. *2020 Integrated Resource*. Cascade Natural Gas Corporation. February 26, 2021, at 10-27.

constraints. Intermountain notes that “the [t]otal [c]ompany perspective differs from the laterals in that it reflects the amount of gas that can be delivered to Intermountain via the various resources on the interstate system.”¹⁷ On a system basis, Intermountain did not identify any peak day shortfalls.¹⁸

The 2019 plan also indicates Intermountain is long on capacity, until existing Northwest Pipeline (NWP) capacity expires in 2020 and 2025, and that Intermountain has agreed to extend transport agreements with NWP and Plymouth storage at reduced rates for new capacity.¹⁹ The plan does not mention the need for additional GTN or GTNx capacity. Results for the Intermountain total company firm delivery deficit from the 2017 IRP are consistent with the 2019 analysis and indicate no peak day deficits or days requiring additional resources.²⁰ While it was not filed until after the GTNx application was submitted, Intermountain’s more recent 2021-2026 IRP, filed in December 2021, indicates the potential need to “pick up about 6,000 Dthm/day of incremental GTN in the final year of the planning horizon”²¹. We note, this is less than 1/10th of the 79,000 Dthm/day of incremental capacity allocated to Intermountain by the precedent agreements cited in the Company’s application for the GTNx project.

4. The individual financial interests from gas producers, shippers, marketers, and distribution companies in signing long-term contracts are not sufficient to demonstrate market demand or public need for the proposed incremental capacity. The parties to the contracts are in the gas business. They rely on and profit from the production, transportation, and consumption of gas. There is a clear conflict of interest, and a lack of regulatory oversight, if the signing of contracts between such parties is accepted as sufficient demonstration of public need for gas infrastructure expansions.

The foregoing discussion highlights the weakness of the Company’s declared “need” for the GTNx capacity expansion. The region’s total gas transportation capacity on the pipeline

¹⁷ Intermountain Gas Company, *Integrated Resource Plan 2019-2023*. October 2019, p. 98.

¹⁸ *Ibid.* p.98.

¹⁹ *Ibid.* p. 57.

²⁰ *Ibid.* Optimization results, p. 131.

²¹ Intermountain Gas Company, 2021-2026 IRP, p. 166.

systems is already quite large, and the GTN system provides roughly a third of this capacity. The demand forecasts in the IRP plans for the two regulated gas distribution companies who are contracted shippers for GTNx overly simplify future gas demand by equating growth of population, households, and businesses with growth in gas demand while not accounting for important market, regulatory and consumer choice dynamics. However, even when the growth forecasts for the IRPs are taken at face value, the need for the expanded capacity proposed by GTNx is not clearly identified in the preferred portfolio, or action plan for either utility. This means the IRP's for the two distribution companies cited by GTN estimate other options for meeting demand are lower cost and/or lower risk. The Company's proclaimed "need" for the project rests on the contractual interests of gas producers, marketers, distributors, and transportation companies. The "need" is not based on the documentation of public interest in, or public need for gas supplies. In the following section we provide further review and citations to analyses and studies indicating regional gas demand is likely to decline in the coming decades.

3.2 Regional Gas Consumption

As illustrated in Figure 2 above, gas consumption in the region is dominated by California (75%), followed by Washington (11%), Oregon (9%) and Idaho (5%).²² Prudent regulatory oversight and planning for increased infrastructure investments to meet the regional demand clearly needs to consider consumption trends and forecasts for California. The California Energy Commission commissioned research to study the "Challenge of Retail Gas in California's Low-Carbon Future".²³ The study indicates that in any low-carbon future, gas demand is expected to decline, and at the same time, millions of customers will remain on the gas system through 2050.

"In any low-carbon future, gas demand in buildings is likely to fall because of building electrification or the cost of renewable natural gas (RNG). In the High

²² Energy Information Administration, 2020 Gas Consumption by State.

²³ Aas, Dan, Amber Mahone, Zack Subin, Michael Mac Kinnon, Blake Lane, and Snuller Price. 2020. The Challenge of Retail Gas in California's Low-Carbon Future: Technology Options, Customer Costs and Public Health Benefits of Reducing Natural Gas Use. California Energy Commission. Publication Number: CEC-500-2019-055-F.

*Building Electrification scenario, gas demand in buildings falls 90 percent by 2050 relative to today. In the No Building Electrification scenario, a higher quantity of RNG is needed to meet the state's climate goals, leading to higher gas commodity costs, which, in turn, improve the cost-effectiveness of building electrification.”*²⁴

The anticipated declines in California's pipeline gas throughput and remaining volumes are illustrated in Figure 3 below. The volume declines are steady and significant in all three scenarios. By 2050 they range from 500 TBtu/yr²⁵. under the current policy reference case, which does not meet the California's 2030 and 2050 GHG reduction goals to more than 1,000 TBtu/yr in each of the two scenarios (high building electrification and no building electrification) that do meet climate reduction targets. For the no building electrification scenario, the projected decline in volumes is based on the cost of pipeline gas rising as more non-fossil gas is included in the pipeline mix.

²⁴ Ibid, p. iii.

²⁵ A TBtu is one trillion British Thermal Units (Btus). This is a measure of the energy content of gas. One dekatherm (Dth) of gas is equivalent to 1 million Btus, so 1 million Dekatherms = 1 TBtu.

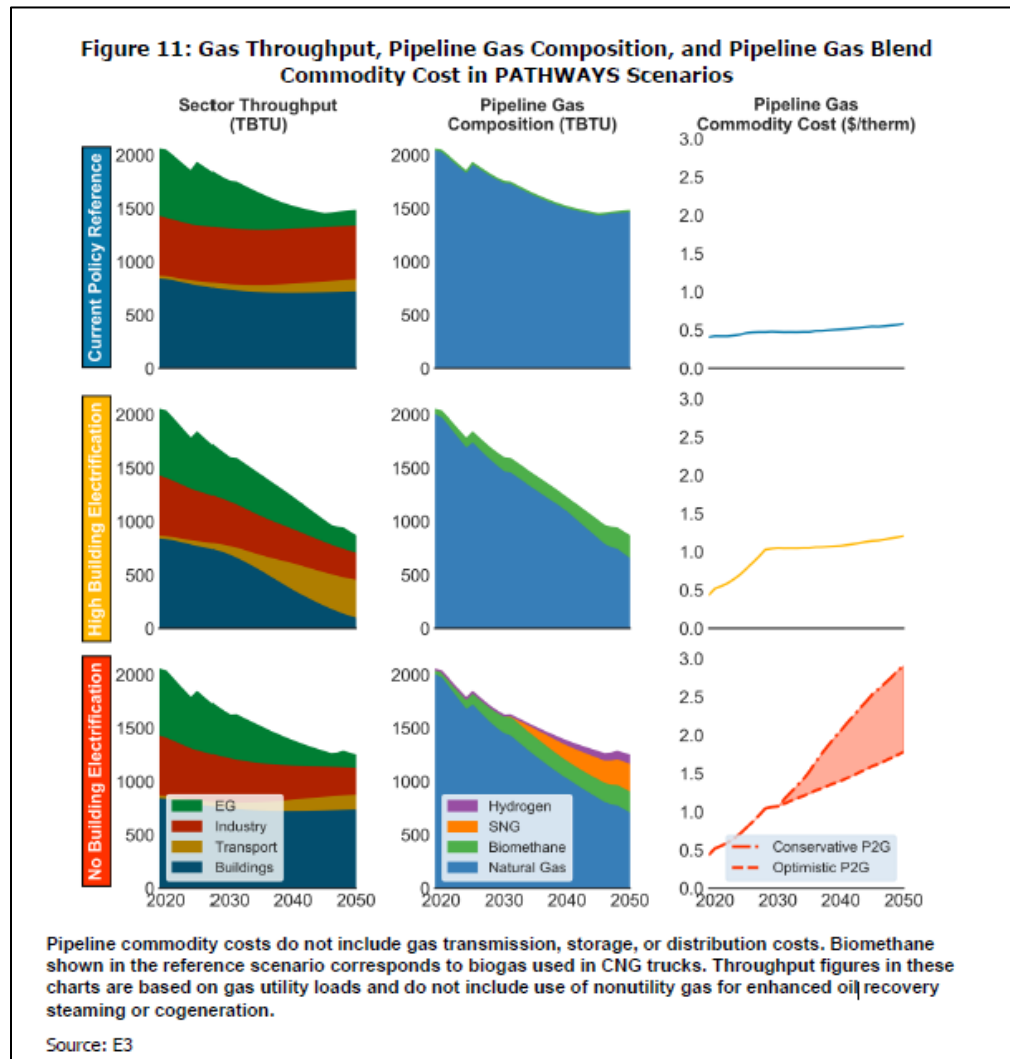


Figure 3: California Future Gas Consumption Trends

The projected decline in gas volumes, combined with the recognition that pipeline gas will continue to play a role in California's low-carbon energy future lead to strategy recommendations relevant to review of the GTNx application. The California study's gas transition strategy recommendations include²⁶:

- Reduce the costs of the gas system

²⁶ Ibid. p. 60.

- Halt expansion of the gas system...Insofar as throughput declines and customer exits can be expected, additional obligations (from new investments in expanded gas infrastructure) will increase the cost of gas service for remaining customers...
- Targeted retirement of gas distribution infrastructure, and
- Derating of infrastructure to reduce forward operating and maintenance costs.

The study recognizes the need to maintain the safety and reliability of gas infrastructure and that gas will continue to help meet California's energy needs through 2050, but clearly indicates that expansion of the gas system only exacerbates problems related to cost recovery and rates. As California is the largest consumer of gas in the region, the projected trends will have an outsized impact on the region's total gas capacity and volume needs.

Similarly, an analysis of deep decarbonization pathways for Washington State, which is the second largest consumer of gas in the region, prepared for the Washington Office of the Governor and Office of Financial Management, examined alternative scenarios for reducing emissions in 2050 to 80% to 95% below 1990 levels.²⁷ Consistent with the results from California study cited above, all the scenario results indicate declines in consumption of Washington State's pipeline gas by 2050 as illustrated in Figure 4.

²⁷ Deep Decarbonization Pathways Analysis for Washington State, State of Washington Office of the Governor and Office of Financial Management, **Prepared By:** Ben Haley, Gabe Kwok and Ryan Jones *Evolved Energy Research* And Dr. Jim Williams *Deep Decarbonization Pathways Project*. December, 2016.

Sectoral Final Energy Demand

All Cases

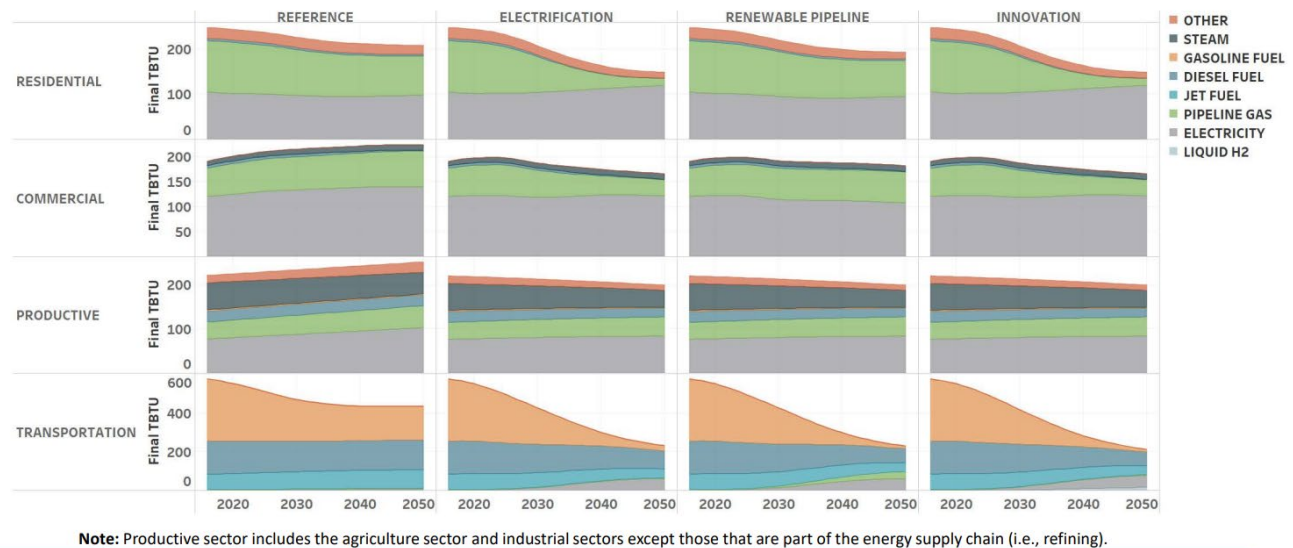


Figure 4: Washington Future Gas Consumption Trends

Contrary to the findings of these two studies, in their application for the GTNx project the Company merely claims rising gas demand in the Pacific Northwest region. It fails to mention or consider studies indicating reductions in regional gas consumption are an essential element of successful plans for meeting state policy objectives and regulatory requirements. The next section of our report examines how meeting the region’s existing renewable portfolio standards is also expected to reduce demand for pipeline gas.

3.3 Declines in Gas Consumption for Electric Generation

According to data from the Energy Information Agency (“EIA”) total natural gas consumption across the states in which GTN proposes to increase its capacity was approximately 2,770 TBtus/yr in 2020. Figure 5 below, shows the sector-based breakdown of this regional demand with each state’s contribution.

The largest consumer of gas in the GTN footprint is California, which consumed approximately 2,070 TBtus/yr, or 75% of the regional demand. Washington follows with an annual consumption of 310 TBtus. Oregon consumed approximately 250 TBtus in 2020, and Idaho consumed 125 TBtus in that year.

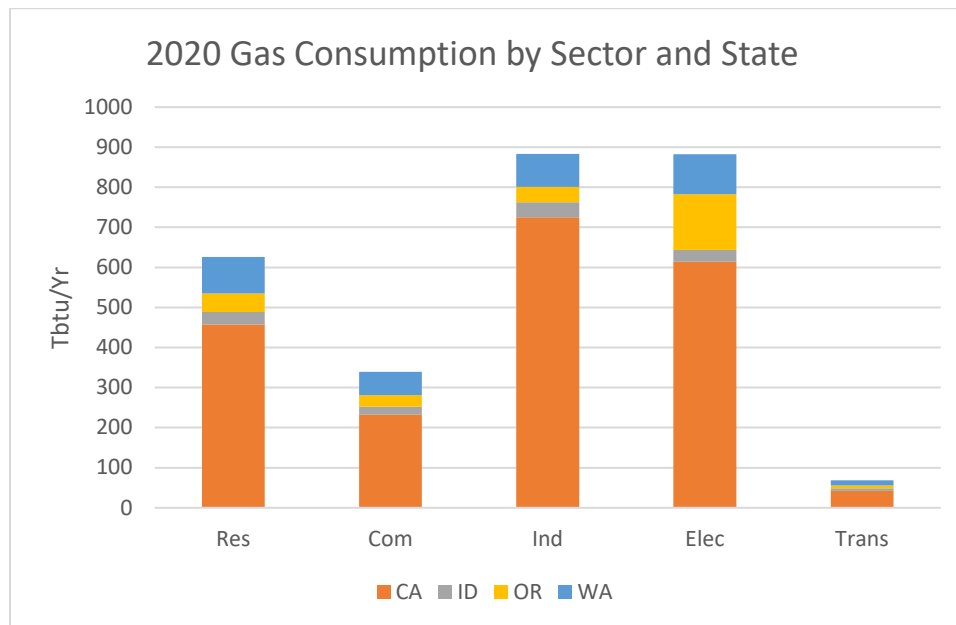


Figure 5: 2020 Gas Consumption by Sector and State, Source: EIA

GTN provided no analysis of the future demand in the region, or of policies in the region that may affect the demand for natural gas in the region. However, as indicated in the previous section there is good reason to anticipate that future demand for natural gas in the region will decline.

Referring again to Figure 5, the most significant consumers of natural gas in the region are industrial customers and electricity generators, consuming approximately 880 and 876 TBtus respectively, 1,760 TBtus combined, or 64% of the regional demand in 2020. Natural gas-fired electricity generation in the region, represents 32% of the total regional natural gas consumption.

This approximately one-third of the region's natural gas consumption is likely to decline in future years as legislative mandates in California, Washington and Oregon require electricity generators to limit, reduce, and retire their natural gas-fired electricity generating units to achieve

state policy goals. As such, this likely decrease in regional demand due to carbon-zero and carbon-neutral polices should be considered before approval of the proposed GTN pipeline expansion.

Consumption of gas for electric power generation was approximately 900 TBtus in 2020, dominated by California at 614 TBtus. Idaho, Oregon, and Washington consumed approximately 30, 140, and 100 TBtus respectively in 2020 for electric power generation.

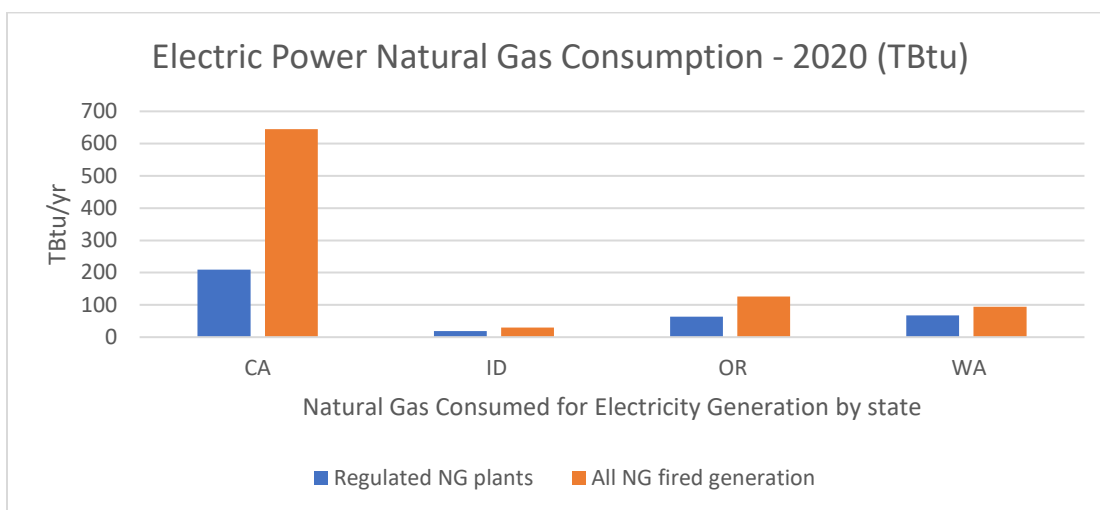


Figure 6: Gas Consumption for Electric Power by State Sources: EIA-923 and EIA-860 Reports²⁸

The chart above shows the fuel consumed for natural gas plants operated by regulated entities, and those operated by entities that may be beyond state regulation or are self-generating electricity. California, Oregon, and Washington State all have renewable portfolio standards (“RPS”) for clean energy. California’s RPS requires investor-owned utilities and municipal utilities to procure certain levels of retail sales from renewable sources of generation: 44% by 2024; 52% by 2027; 60% by 2030; and 100% clean energy by 2045.²⁹ Washington’s RPS requires similar entities to be 100% greenhouse gas (“GHG”) neutral by 2030; and 100% renewable or zero-emitting by 2045.³⁰ Oregon’s Clean Energy Targets require retail electricity providers to reduce emissions by the following levels below baseline: 80% by 2030; 90% by 2035; and 100%

²⁸ U.S. Department of Energy, The Energy Information Administration (EIA), *EIA-923 Monthly Generation and Fuel Consumption Time Series File*, 2020 Final Revision.

²⁹ SB-100 *California Renewables Portfolio Standard Program: emissions of greenhouse gases*.

³⁰ Senate Bill 5116 *The Clean Energy Transformation Act*

by 2040.³¹ Oregon's Clean Energy Targets include investor-owned utilities, municipal utilities, cooperative utilities, and retail suppliers among those entities which must comply with the clean energy targets.³²

These targets and mandates indicate significant reductions in gas fired generation are required in region in future years, and the reductions in gas consumption are likely to exceed projected growth in gas consumption cited by GTN in the application. For example, by 2030, there are regional requirements for either direct reductions in GHG or procuring significant levels of energy from zero-emitting resources ranging from 52% to 100% of demand for electricity. Figure 7 demonstrates the potential for reductions to natural gas consumption for electric power generation by 2045.

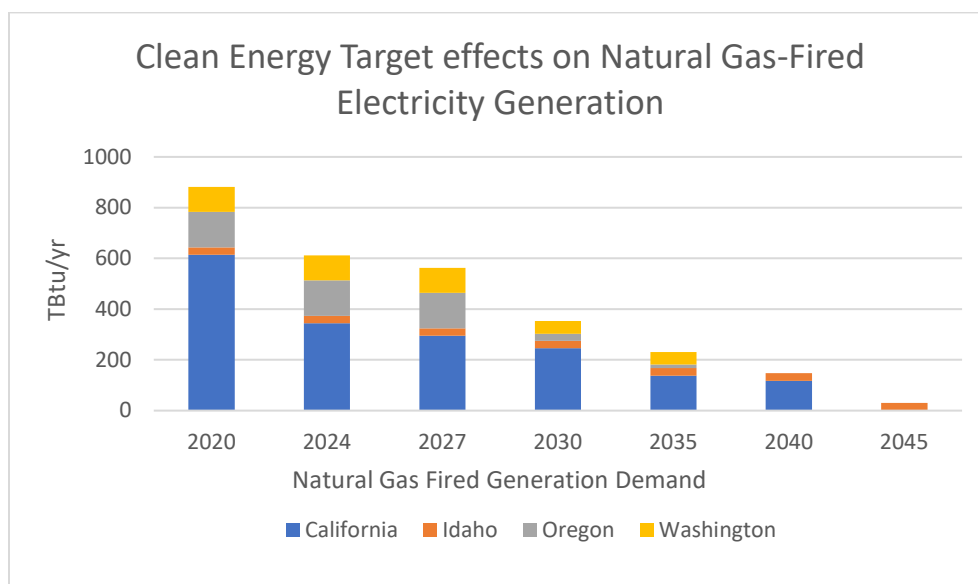


Figure 7: Clean Energy Targets by State, 2020 - 2045, Source: EIA

GTN also cites growth for natural gas demand in the region to serve the customers of natural gas utilities, citing anticipated growth of 2.12% in Zone GTN serving Oregon.³³ As Figure 7 demonstrates, however, this potential growth is de minimis as compared to the expected decline

³¹ HB-2021 *Clean Energy Targets*

³² The inclusiveness of the Oregon standard suggests that nearly all natural gas fired electricity generation is likely to retire in this state.

³³ Application at 11.

in demand for natural gas as fewer power plants in the region are fueled by natural gas. Oregon's consumption of natural gas for electricity generation, represented by the gray portion of the bar graphs above, is expected to decline significantly by 2030.

3.4 Alternatives to the GTNx Proposed Capacity

The preceding sections of this paper identify and critique the weakness of the Company's justification of need for the project. The responsibility to demonstrate need for the project rests with the Company, and the GTNx application fails to do this. The Draft Environmental Impact Statement (DEIS) issued by FERC Commission Staff in June 2022 declines to address project need, despite comments from the Environmental Protection Agency and others, but instead indicates the Commission's decision and Order will review the need for the project.³⁴

Here, we discuss how, even if need were to be determined, the DEIS fails to adequately consider alternatives to the proposed project. Since we contend that need has not been demonstrated, this is a somewhat moot point, but it is still concerning. If the Company had analyzed, documented, and presented a legitimate need for incremental capacity the consideration of both pipeline and non-pipeline alternatives deserves more thorough consideration than the DEIS provides.

The DEIS is required to evaluate alternatives to the proposed project, but it adopts an extremely limited scope and circular logic approach to this assessment. The DEIS states that "the purpose of the project is to increase the capacity of GTN's existing natural gas transmission system", and "an alternative that does not increase the capacity of GTN's natural gas transmission system is not a reasonable alternative because it does not meet the purpose of the project".³⁵ The DEIS is confusing the ends with the means. The regulatory evaluation of an application for a pipeline capacity expansion should be based on the purpose of meeting energy demands and protecting public interests.

³⁴ Federal Energy Regulatory Commission, Office of Energy Projects, FERC/EIS-0321D, GTN Xpress Project, Draft Environmental Impact Statement, Gas Transmission Northwest LLC, Docket No. CP22-2-000 p. 1-4.

³⁵ Ibid. p. 3-1.

If the “purpose” of the project is to “expand the capacity of the system”, then analysis of alternatives will necessarily be limited and somewhat nonsensical. The DEIS’s evaluation of alternatives is limited to “pipeline alternatives” such as looping and the use of electric instead of natural gas compressors. In its application, the Company only briefly mentions and dismisses alternative geographic locations for compression equipment.³⁶ No consideration of non-pipeline alternatives is discussed in either the DEIS or in the Company’s application.

It is not within the scope of our expert report to fully analyze non-pipe alternatives. However, they are available and important, particularly in a market where total gas volumes and demand are declining. As we noted earlier, incremental demand side management is analyzed and identified as part of Cascade’s preferred IRP portfolio.³⁷ Demand and flexible load management for gas consumers, including the increased use of interruptible rates for large customers are other important non-pipeline alternatives to reduce peak demand. Increased storage (another option identified in Cascade’s preferred IRP portfolio) can be located and used to meet potential capacity constraints. Selective pruning of the gas distribution system or limiting of new gas connections are other peak reducing and transition strategies discussed in the California Energy Commission study cited above. A recently released study from the American Council for an Energy Efficient Economy (ACEEE) confirms that converting existing or new customers to electric heat pumps for space conditioning and water heating is more efficient than using gas equipment and it is financially attractive from the customer’s perspective.³⁸ These non-pipeline resources, either individually or in combination, are likely to offer lower cost options for meeting customer energy needs in the region, and are legitimate alternatives to the proposed capacity expansion.

³⁶ Application p. 19.

³⁷ Cascade 2020 IRP, p. 1-11.

³⁸ For example, Nadel, S., and L. Fadali. 2022. Analysis of Electric and Gas Decarbonization Options for Homes and Apartments. Washington, DC: ACEEE. www.aceee.org/research-report/b2205. Includes findings that for homes in climates with less than 6,000 heating degree days that electrification offers the least expensive clean heating option for most households.

4.0 Costs and Cross Subsidization

The Company's application identifies the total GTNx project cost as \$75.1 million. This narrowly represents the costs for the software and hardware upgrades required to increase the existing pipeline capacity by 150,000 Dthm/day. However, the GTNx project relies upon, and would not be possible without, excess compressor capacity installed under prior projects. Analysis by Mr. Gregory Lander another expert witness providing support for the Washington State Attorney General's Office indicates in the previous "replacement project" the Company chose to install oversized compressors at each of the Starbuck, Kent, and Athol stations. For each station the compressors were 9,170 horsepower larger than required, and Mr. Lander calculates that 39.1% of the "replacement" costs are more properly considered as "expansion" costs and counted as such during consideration of the proposed GTNx expansion. These "expansion costs" for the excess compressor capacity are substantial, adding \$98 million to the Company's GTNx proposed costs, more than doubling the total to \$173 million. The excess "expansion" costs of \$98 million from the prior project are being borne by existing customers, and not just by the three project shippers identified in the GTNx application. Therefore, if the Company's application is approved, existing customers will cross-subsidize the expansion for the three project shippers with precedent agreements for GTNx. Protests filed by Puget Sound Energy, and Pacific Gas and Electric object to the Company's filing based on this inappropriate cost accounting.³⁹

5.0 Adverse Impacts

In the preceding sections we provide our arguments that the Company has not demonstrated the need for the project (Section 3), and that the application does not accurately represent the full costs of the equipment necessary to provide the incremental capacity (Section 4). We now turn to consideration of the adverse environmental, economic, and social impacts of the project. We find there are significant negative impacts across all three categories and conclude and recommend these impacts prevent the project from being in the public interest.

³⁹ Motion for Leave to Answer and Response of Puget Sound Energy, Inc., Motion to Intervene and Protest of Pacific Gas and Electric Company.

5.1 Adverse Environmental Impacts

The myriad risks and damages posed by climate change are real, are being experienced today, and are unfortunately only likely to only increase in the future. Proposals to expand gas system infrastructure and volumes further increase these adverse impacts and risks.

California, Washington, and Oregon all have established targets for the reduction of greenhouse gas emissions that are broadly informed by and consistent with the United States commitments related to the Paris Climate Accord. As illustrated in Figure 8, meeting the targets for these states entail reducing regional emissions from more than 600 million metric tonnes of carbon dioxide equivalent (MMT_{CO2e}) in 1990 by 80%, with total regional emissions declining to roughly 130 MMT_{CO2e} by 2050.

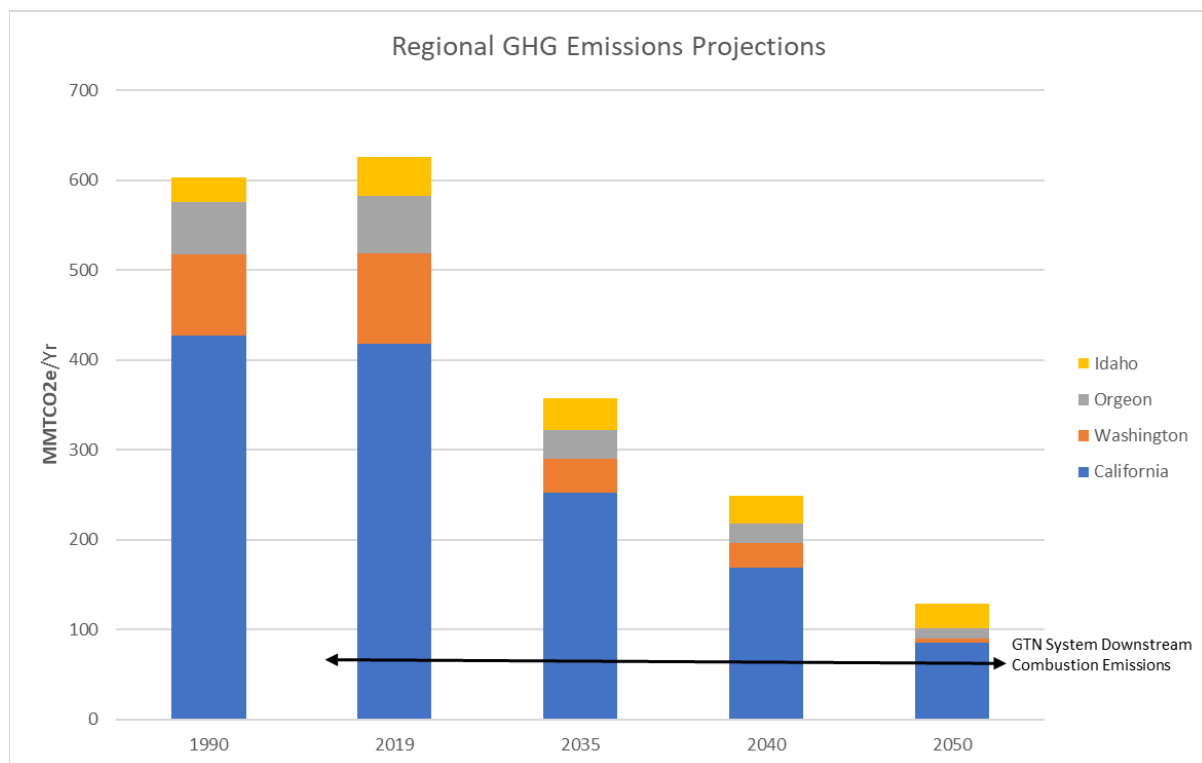


Figure 8: GHG Emission Reduction Profiles by State⁴⁰

⁴⁰ Sources: (California) *California Climate Policy Fact Sheet: Emission Reduction Policy*.
<https://www.law.berkeley.edu/wp-content/uploads/2019/12/Fact-Sheet-Emission-Reduction-Policy.pdf>.

To place the environmental impacts of the GTNx application in context we provide a high-level analysis of the combustion emissions for gas volumes on the current and proposed expansion of the GTN system. The downstream combustion emissions from the current GTN system, and the increased emissions associated with the GTNx application are represented in Table 1. We note our analysis of the adverse GHG impacts is conservative since we do not include estimated upstream and fugitive emissions from the gas production and transportation system.

Table 1: GTN System Emissions as Share of Current and Future Regional Emissions⁴¹

	Bcf/Yr	<u>Combustion Emissions</u> MMTCO₂e	Share of Region's Total 2019 Emissions	Share of Region's Total 2050 Emissions
Existing GTN	1058.5	58.32	9%	45%
Proposed GTNX	54.75	3.02	0.5%	2%
Total GTN + GTNx	1113.25	61.34	10%	48%
EPA CO ₂ e combustion	0.0551	metric tons/Mcf		

Our calculations indicate the combustion of gas from the GTN system currently contributes around 58 MMTCO₂e or 9% of the region's total GHG emissions in 2019. As noted earlier, the GTNx expansion represents a relatively modest 5% increase to the overall GTN system and the associated emissions, but any increased emissions only make reaching the reduction targets more difficult.

Looking forward, as regional emissions decline, the share and impact represented by the GTN system becomes more substantial. We estimate that if GTNx is approved, the 61 MMTCO₂e of combustion emissions from gas on the GTN system would represent 48% of the region's target

(Washington) *Washington Gov. Inslee proposes to slash emissions, reach net-zero carbon by 2050*, Washington Gov. Inslee proposes to slash emissions, reach net-zero carbon by 2050, Washington Gov. Inslee proposes to slash emissions, reach net-zero carbon by 2050, <https://www.utilitydive.com/news/washington-gov-inslee-proposes-to-slash-emissions-reach-net-zero-carbon-b/569564/>. (Oregon) *Reducing Greenhouse Gas Emissions*. <https://www.oregon.gov/energy/energy-oregon/Pages/Greenhouse-gases.aspx#:~:text=In%20March%202020%2C%20Governor%20Brown,below%201990%20levels%20by%202050.> Our graphic includes Idaho, to represent GTN supplied gas to Intermountain's service territory, but based on current policy, there are no statewide emissions reductions estimated for Idaho.

⁴¹ Bcf is Billion cubic feet. Gas combustion emissions coefficient from the Environmental Protection Agency, EPA Greenhouse Gas Equivalencies Calculator.

GHG emissions of 129 MMTCO₂e from all sources by 2050. Even without the additional GTNx capacity the 58 MMTCO₂e of downstream combustion emissions from the current GTN system are 45% of the region's target for total emissions in 2050. This analysis clearly demonstrates that the combustion of gas from the GTN currently has a significant environmental impact, and that as regional emissions decline the environmental footprint and impacts from the GTN system become more substantial.

5.2 Adverse Economic Impacts

There are multiple areas of concern related to negative economic impacts from the project. Most fundamentally, we have critiqued the Company's failure to demonstrate public need for the project. The proposed capital investment, in infrastructure that will provide the Company a long-term return on their capital, cannot be justified solely by the private interests of the proposing company. A demonstration of the public need and benefits from the investment are required and are not provided by the Company in the application.

Second, as mentioned above the costs for the expansion are understated, and consideration of potentially cost-effective non-pipeline alternatives has not been conducted. Sound policy, regulatory oversight, and economics require a balanced comparison of the proposed capacity expansion with alternatives. Lacking a complete and accurate accounting for the costs of the capacity expansion, and a comparison of those costs to the costs for non-pipeline alternatives, the proposed project risks expenditures on an unnecessary project that imposes additional costs on consumers, while benefitting the Company.

Third, cost recovery for the project is planned over a long-time horizon that is not concordant with the trends in regional gas consumption, and the need for gas infrastructure, that we identified above. This increases the risk of creating a stranded asset and can also mean that customers least likely to avail themselves of other fuel choices will be the ones footing the bill for the capacity expansion. Annual depreciation and terminal negative salvage expenses of \$1.58 million are estimated in the Company's application.⁴² If, for the purpose of this discussion, we use the

⁴² Exhibit N, Cost of Service for Proposed Project Facilities, p. 2 of 7.

Company’s understated total expansion costs of \$75.1 million, the annual depreciation of \$1.58 million will require roughly 47 years for the asset to be fully depreciated. To illustrate the potential stranded asset risk and cost of service impact associated with such a long depreciation period, we provide a comparative analysis with a 20-year depreciation period in Figure 8. We selected a 20-year cost recovery period for the comparison case based on the anticipated decline in total regional gas consumption we have cited above.

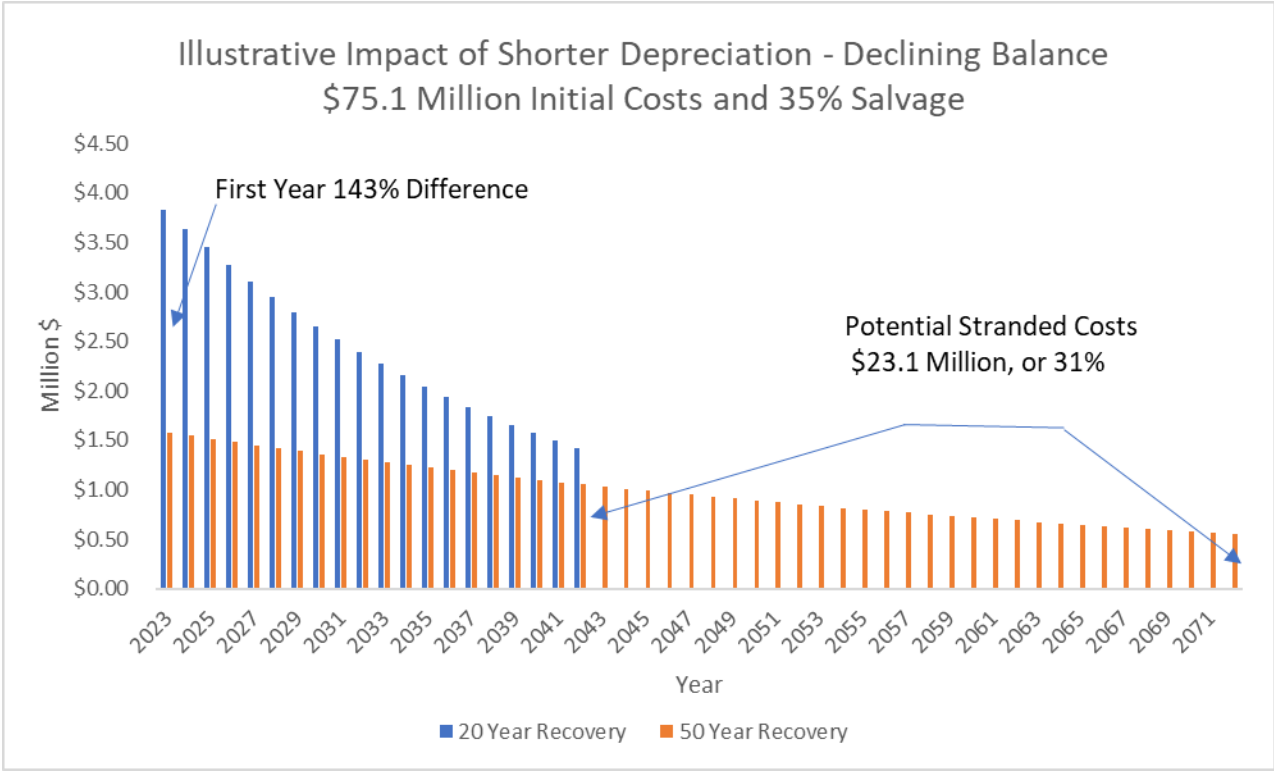


Figure 8: Comparison of 20- and 50-Year Recovery Period on Cost of Service

Figure 8 illustrates two important points. First, the shorter depreciation period increases first-year cost recovery by 143%, more than doubling the required depreciation included in the cost-of-service calculations. Such an increase in the cost-of-service calls into question the Company’s assertion that project revenues will exceed costs. Second, the longer recovery period leaves more than \$23 million or 30% of the costs to be recovered in the last 30 years (from 2042 to 2072). The recovery of these costs so far into the future increases the risk that they will need to

be recovered from a smaller gas customer base, and over lower gas volumes. The asset may become stranded without a sufficient base for cost recovery, or it may impose increasing costs on remaining customers, which in-turn will encourage even more of them to exist the gas system. The proposed cost recovery period also risks placing an unfair burden on customers for whom transitioning off the gas system to other options may be most difficult due to financing, up-front costs, or other barriers. This analysis is illustrative. It does not claim to duplicate or replace the Company's proposed cost of service accounting – but it serves to highlight the risks of adverse economic impacts caused by the structure of long-term cost recovery proposed in the application.

5.3 Adverse Social Impacts

The adverse environmental and economic impacts from the proposed project are more likely to impact lower income and otherwise disadvantaged households and the businesses that serve these populations. These segments of the population are at a higher risk for the negative impacts of climate change and often have fewer resources available to increase resilience or adapt to climate change impacts. As discussed in the previous section, this same segment of the population may also be at risk for bearing a disproportionate share of the cost recovery on a system with declining sales volumes. The previously cited study conducted for the California Energy Commission on the Challenge of Retail Gas in California's Low-Carbon Future, highlights the potential negative social and equity impacts associated with gas system transition.⁴³ Redirecting investments in gas infrastructure towards alternative non-pipeline energy infrastructure investments, for example increasing weatherization, efficiency, and strategic electrification for affordable housing and efficiency has the opposite effect by decreasing emissions, climate impacts, and making household energy burdens more affordable.

⁴³ The Challenge of Retail Gas in California's Low-Carbon Future: Technology Options, Customer Costs and Public Health Benefits of Reducing Natural Gas Use. California Energy Commission. 2020.

6.0 Conclusions and Recommendations

This expert report presents a critical review of the Company's application for a certificate of need and public convenience for the GTNx project. Our findings and analysis lead us to the following conclusions:

- The three long-term contracts with prospective gas shippers for the incremental capacity do not justify need.
- The IRPs for the two gas distribution companies with potential contracts for the capacity do not clearly identify the need for the GTNx project.
- The Company's proposal does not address climate and renewable energy policy goals and legislation in the region and the potential impact on gas consumption. We present and discuss several studies, policies, and regulations that suggest substantial reductions in gas consumption in the target markets are likely.
- The adverse environmental impacts of the proposed capacity expansion are the wrong direction and significant given state decarbonization and emission reduction targets and policy objectives.
- The project inappropriately piggybacks on earlier compressor station upgrades, masking and underestimating the total investment for the proposed incremental capacity. This results in existing customers cross subsidizing the project.
- Non pipe alternatives have not been considered and are likely to be economically competitive from societal perspective, while reducing adverse environmental and social impacts.
- The proposed depreciation schedule for the project implies an unduly long (through 2072), and imprudent period for cost recovery. This increases the risks of cross subsidization and the expanded capacity becoming a stranded asset.


We conclude the Company's application for a certificate for public convenience and necessity has significant shortcomings across multiple criteria. The Company's application does

not demonstrate need. We have identified and discussed adverse environmental, economic, and social impacts, each of which suggest the project is not in the public interest. Based on these findings, our recommendation is to deny the application for the proposed capacity expansion.

AFFIDAVIT OF DAVID G. HILL, Ph.D.

I, DAVID G. HILL, Ph.D., hereby affirm under penalty of perjury that the contents of my expert report entitled "GTN Xpress Project: A Critical Review of Need, Cost, and Impacts," dated August 15, 2022, are true and correct to the best of my knowledge and belief.

DATED this 15th day of August 2022, at Hinesburg, Vermont.



DAVID G. HILL, Ph.D.

Professional Summary

Earnest White brings experience focused in load forecasting, power market modeling, capacity expansion planning, and regulatory policy. His most recent experience was analyzing and providing expert witness testimony on integrated resource plans, renewable portfolio standard petitions, utility-scale solar certifications, general rate cases, and retail choice as staff member of the Virginia State Corporation Commission. Earnest has training and experience across several utility-specific planning platforms including PLEXOS, Aurora, PROMOD, and IMPLAN. Additionally, he has worked with SAS, R, and Python.

Experience

2022-present: Senior Consultant, Energy Futures Group, Hinesburg, VT

2017-2022: Principal Utilities Policy Specialist, Virginia State Corporation Commission, Richmond, VA

2014-2017: Lead Analyst Wholesale Markets, Tesla Forecast Solutions, Richmond, VA

2008-2014: Power Market Modeler, Tesla Forecast Solutions, Richmond, VA

Education

Master of Energy Business, University of Tulsa, 2021

Bachelor, Economics, Virginia Commonwealth University, 2009

Select Projects

- **Virginia State Corporation Commission.** Analyzed and provided expert witness testimony related to the load forecasting assumptions and capacity modeling of the 2018 and 2020 Dominion Energy Virginia IRPs. (2018-2020)
- **CENACE.** Supported the National Energy Control Center (CENACE) of Mexico's development and deployment of its national and regional power market forecasting. (2016-2017)
- **Transpower New Zealand.** Collaborated with New Zealand's national grid operator to develop new techniques to estimate and forecast the effects of distributed generation on net load at the transmission level. (2011-2017)

Energy Futures Group, Inc

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Professional Summary

David Hill joined EFG as a Managing Consultant at the start of 2020, after 22 years of employment with VEIC, most recently as Director of Distributed Resources and a VEIC Policy Fellow. He is known nationally for his advancement of sustainable energy program design and evaluation, and renewable energy policy. David has been the principal investigator and led analysis teams for multi-year stakeholder informed studies on solar market and decarbonization pathways and scenarios. David provides expert testimony and regulatory support; participates in international, national, and state boards; leads policy committees and conferences; provides comprehensive studies of the economic, technical, and achievable potentials for sustainable energy programming; and supports program budget planning and implementation. He has led or significantly contributed to the design and development of efficiency and renewable energy programs with annual budgets of \$100+ million for initiatives in New Jersey, Washington DC, New York, Vermont, Arizona, and Maryland. Recent work includes expert testimony and whitepaper analyses related to gas infrastructure investments, pilot programs and planning. He has clients in more than a dozen states and six countries; several of them are international organizations.

Experience

January 2020 – present: Managing Consultant, Energy Futures Group, Hinesburg, Vermont (VT)

2014 – 2019: Director, Distributed Energy Resources, Policy Fellow, VEIC, Burlington, VT

2010 – 2014: Managing Consultant, VEIC, Burlington, VT

2008 – 2010: Deputy Director, Planning and Evaluation, VEIC, Burlington, VT

2000 – 2008: Senior Consultant, VEIC, Burlington, VT

1998 – 2000: Consultant, VEIC, Burlington, VT

1993 – 1998: Research Associate, Tellus Institute and the Boston Center of the Stockholm Environment Institute

Testimony as Expert Witness

Expert witness at technical working groups and before commissions on renewable energy and energy efficiency initiatives in Illinois, Vermont, New York, New Jersey, Maryland, Pennsylvania, South Carolina, Nova Scotia and Ontario.

2022 In the Matter of Avoided Costs for EfficiencyOne's 2023-2025 Demand Side Management Plan Application, before the Nova Scotia Utility and Review Board, on behalf of EfficiencyOne. February 11, 2022.

- 2022 Appearance before the Rhode Island Energy Facilities Siting Review Board, Docket SB-2021-03, regarding a declaratory Order filed by Sea 3 Providence. LLC. Hearing appearance in support of Direct Testimony of Gabrielle Stebbins of Energy Futures Group, on behalf of the Conservation Law Foundation.
- 2021 Nicor Smart Neighborhood and Total Green Pilots. Expert witness testimony on behalf of Citizens Utility Board, Environmental Defense Fund and Natural Resources Defense Council, Docket 21-0098 before the Illinois Commerce Commission.
- 2021 Nicor Renewable Natural Gas Pilot. Expert witness testimony on behalf of Citizens Utility Board and Natural Resources Defense Council, Docket 20-0722 before the Illinois Commerce Commission.
- 2020 *NH Saves 2021-2023 Triennial Plan*. Expert witness testimony reviewing joint gas and electric triennial efficiency plan before the New Hampshire Public Service Commission submitted on behalf of Clean Energy New Hampshire, DE 20-092.
- 2020 *Dominion Energy South Carolina, 2020 Integrated Resource Plan*. Expert witness testimony before the South Carolina Public Service Commission submitted on behalf of Southern Alliance for Clean Energy and the South Carolina Coastal Conservation League on the characterization and analysis of energy efficiency and demand response in Dominion's 2020 IRP. Docket No. 2019-226-E.
- 2019 *Efficiency One 2020-2022 DSM Plan: Portfolio Diversification and Lighting Transition*. Expert Witness Testimony submitted on behalf of Efficiency Nova Scotia, to the Nova Scotia Utility and Review Board, Matter 09096.
- 2018 *In the Matter of an Application by Nova Scotia Power for Approval of its Advanced Meter Infrastructure Project*. Expert Witness Testimony submitted on behalf of Ecology Action Center, to the Nova Scotia Utility and Review Board, Matter 08349.
- 2018 *Becoming an Advanced Solar Economy*. Testimony before the Vermont House Committee on Energy and Technology, Montpelier.
- 2017 Maryland Public Service Commission. On behalf of Office of People's Counsel on EmPOWER Maryland Utilities 2018-2020 plans. Presentation and testimony, October 25-26, 2017.
- 2016 Maryland Office of People's Counsel, EmPOWER Maryland. *Written Comments on 2015 Semi Annual (Q3 and Q4) Review*. Presentation and testimony, May 4, 2016.
- 2015 Maryland Office of People's Counsel, EmPOWER Maryland. *Written Comments on 2015 Semi Annual Review*. Presentation and testimony, October 14-15, 2015.
- 2014 Maryland Office of People's Counsel, EmPOWER Maryland. *Written Comments on 2015-2017 Utility Proposed Plans*. Presentation and testimony, October 21-22, 2014.
- 2014 Maryland Office of People's Counsel, EmPOWER Maryland. Evaluation of Semi-Annual Reports - Case Nos. 9153-9157. Presentation and testimony, April 7, 2014.
- 2013 Pennsylvania Public Utility Commission. On behalf of the Office of Consumer Advocate, regarding Petitions of the Pennsylvania Power Company for Approval of its Act 129 Phase II Energy Efficiency and Conservation Plan (Docket Nos. M-2012-2334395 and M-2012-2334392);

- Petition of Metropolitan Edison Company (Docket No. M-2012-2334387); and Petition of West Penn Power Company (Docket No. M-2012-2334398). Written testimony. January 8, 2013.
- 2013 Maryland Office of People's Counsel, EmPOWER Maryland. *Written comments on 2012 Q3-Q4 Semi-Annual Report*. Presentation and testimony, October 2-3, 2013.
- 2011 Maryland Office of People's Counsel. *Utility-Specific Comments on the 2012-2014 EmPOWER Maryland Program Plans*. Case Nos. 9153-9157. Written testimony. October 19, 2011.
- 2011 Maryland Office of People's Counsel. *Written Comments on 2010 Annual Reports, and Q4 2010 reports*. Case Nos. 9153-9157. Presentation and testimony. March 31, 2011.
- 2011 Maryland Public Service Commission. On behalf of the Maryland Office of People's Counsel. *Comments on the 2012-2014 EmPOWER Maryland Utility Program Plans*. October 2011.
- 2009 Pennsylvania Public Utility Commission. On behalf of the Office of Consumer Advocate, regarding Petition of Duquesne Light Company for Approval of Its Energy Efficiency and Conservation and Demand Response Plan, Docket No. M-2009-2093217. August 7, 2009.
- 2005 Ontario Energy Board. On behalf of Green Energy Coalition, regarding Hydro One Networks and Brampton Conservation and Demand Management Plans. February 4, 2005 (written comments) and February 17-18, 2005 (testimony).
- 2005 Pennsylvania Public Utility Commission. On behalf of Penn Future, regarding net metering standards. Written comments and testimony. June 2005.
- 2005 Pennsylvania Public Utility Commission. On behalf of Penn Future. Written testimony and comments on interconnection standards. April 2005.
- 2005 Testimony to the Vermont State Legislature House Committee on Energy and Natural Resources on Vermont's Solar and Small Wind Incentive Program. February 9, 2005.

Selected Projects (from more than 100)

Conservation Law Foundation. Lead author, for "*Rhode Island's Investments in Gas Infrastructure A Review of Critical Issues*", discussing renewable gas potential, gas planning in relation to greenhouse gas reduction goals and, depreciation periods for gas new infrastructure.

Institute for Energy Economics and Financial Analysis. Lead author, for "*Critical Elements in Short Supply: Assessing the Shortcomings of National Grid's Long-Term Capacity Report*", study calling into question proposed natural gas pipeline investment for New York City region.

Massachusetts Executive Office of Energy and Environmental Affairs. Senior advisor for team creating Low Emissions Analysis Platform (LEAP) integrated scenario modeling to inform Massachusetts efforts to reach greenhouse gas reduction targets.

Pennsylvania Department of Environmental Protection. Led team creating scenario modeling using the Low Emissions Analysis Platform (LEAP) model in support of two- and half-year study "*Pennsylvania's Solar Future*". Presentations for modeling review and collaborative stakeholder feedback at more than half a dozen stakeholder meetings and webinars.

U.S. Department of Energy. Principal Investigator for a three-year SunShot Initiative Solar Market Pathways study, investigating the technical, regulatory, and business model implications of getting 20 percent of Vermont's total electric supply from solar by 2025.

Sun Shares. Created and launched, and responsible for management and business development of, a community solar business subsidiary to provide “Easy and Affordable Solar for Employers and their Employees,” 2015 – present.

New Jersey Clean Energy Program. Program design and policy advisor for the renewable energy program for more than a decade.

Rhode Island Office of Energy Resources. Strategic Advisor on State Energy Plan and System Reliability Procurement and Distributed Generation programs.

Alaska Energy Authority. Principal consultant for two studies on renewable and energy efficiency financing and funding strategies.

New York State Energy Research and Development Authority (NYSERDA). Twice led the renewable energy analysis for 20-year forecast of energy efficiency and renewable energy potential, 2003 and 2012.

World Bank. Expert consultant on a short-term study of efficiency and micro- / mini-grid opportunities in Tanzania, 2014.

Arizona Public Service. Managed a rapid assessment and redesign of PV and solar hot water incentives, 2009.

Selected Presentations

- 2017 Sun Shares, Easy and Affordable Solar for Employers and their Employees, American Solar Energy Society, Solar 2017, Denver.
- 2017 Vermont Solar Market Pathways, American Solar Energy Society, Solar 2017, Denver.
- 2016 *Oxymoron: Harmonizing Distributed Energy Integration Realities with Policy Frameworks*. Solar Power International.
- 2015 World Bank, International Conference on Energy Efficiency in Cities, Puebla New Mexico. Invited Panel speaker on Efficiency Vermont and Third-Party Administration Model. February, 2015.
- 2015 *Vermont Solar Market Pathways*. Presentations at Solar 2015 (State College, Pennsylvania), and Renewable Energy Vermont Conference.
- 2014 New York State Energy Research and Development Authority (NYSERDA), Renewable Energy Potential Study Results, Albany, NY.
- 2013 *Transformative Energy Planning*. Invited speaker at Innovations in Renewable Energy Symposium, Metcalf Institute for Marine and Environmental Reporting, Narragansett, Rhode Island.
- 2012 World Renewable Energy Forum, 2012 – Welcome Address and Introduction of Keynote Plenary Speakers. American Solar Energy Society, Denver.
- 2012 *Efficiency Vermont: A Successful Statewide Clean Energy Utility Model*. Presented at the 2012 Business of Clean Energy in Alaska Conference, Anchorage.
- 2011 Nova Scotia Feed In Tariff Forum: Invited speaker for two panels addressing Regional Coordination and Export Potential and International Feed-in Tariffs.

- 2011 *Integrating Renewable Energy and Efficiency Services.* Presentation to the Clean Energy States Alliance Fall 2011 Meeting, Washington, DC.
- 2010 *The Potential for Energy Efficiency and Renewables as Resources in Wholesale Capacity Markets,* Presentation at EUEC 2010 Conference, Phoenix, AZ.
- 2008 “Technology and Policy; Getting it Right.” Solar Power International, Invited panel speaker. San Diego, California.
- 2008 *Solar Market Transition in New Jersey: Promise and Progress towards Sustained Growth.* Solar 2008, American Solar Energy Society.
- 2008 *Review of Efficiency Vermont Administrative Structure and Experience.* Penn Future 2008 Clean Energy Conference, May 2008.
- 2006 *Scoping Analysis of Potential Photovoltaic Contributions Towards Offsetting Transmission System Upgrades in Southern Vermont.* Solar 2006, American Solar Energy Society.
- 2006 *Growing New Construction Markets for Photovoltaics: Recent Strategies and Activities from LIPA’s Solar Pioneer Program.* Solar 2006, American Solar Energy Society, 2006.
- 2005 *Market Response to Photovoltaic Incentive Offerings: An Analysis of Trends and Indicators.* Presented at the International Solar Energy Society Solar World Congress, 2005.
- 2003 *Solar Energy Value and Opportunities in Vermont,* Invited Session Panel Moderator and Speaker, 2nd Annual Power for a New Economy Conference, Burlington, Vermont, October 8, 2003. Renewable Energy Vermont.
- 2003 *Renewable Energy Case Studies: Redefining the Models, Refining the Messages, and Getting the Word Out,* Invited Session Panel Moderator, Solar 2003 National Solar Energy Conference, Austin, Texas June 22, 2003. American Solar Energy Society.
- 2002 *Transforming Markets for Customer Sited Clean Renewable Energy: Connecting Field Experience with Lessons from the Efficiency World,* Invited Session Panel Moderator, Solar 2002 National Solar Energy Conference, Reno, Nevada June 18, 2002. American Solar Energy Society.
- 1997 *IDENTIFY: Improving Industrial Energy Efficiency and Mitigating Global Climate Change.* Software and paper prepared for the United Nations Industrial Development Organization, presented at the 1997 ACEEE Summer Study on Energy Efficiency in Industry.
- 1997 *E2/FINANCE: A Software System for Evaluating Industrial Eco-Efficiency Opportunities,* sponsored by the U.S. Department of Energy. ACEEE 1997 Summer Study on Energy Efficiency in Industry.
- 1995 *Process Evaluation of Three Gas Utility Commercial Industrial Demand Side Programs.* Prepared for the Colonial Gas Company, and presented at ACEEE 1995 Summer Study on Energy Efficiency in Industry.

Selected Publications

- 2017 Smart Electric Power Alliance, 51st State Initiative, *Role of Utilities in the Transforming Energy Economy of the 51st State*, September 2017.

- 2016 *Vermont Solar Market Pathways: From a Developed to an Advanced Solar Economy*. A Phase II Roadmap document prepared for the *Smart Electric Power Alliance 51st State Initiative*.
- 2016 *Vermont Solar Market Pathways*, Vols. 1-4. U.S. Department of Energy, Sun Shot Initiative, Office of Energy Efficiency and Renewable Energy. Award DE-EE-0006911.
www.Vermontsolarpathways.org.
- 2016 *Energy Efficiency Program Evaluation and Financing Needs Assessment*. Report prepared for the Alaska Energy Authority, May 2016.
- 2015 *Michigan Renewable Resource Assessment*. Final Report, prepared for the Michigan Public Service Commission Staff under agreement with the Clean Energy States Alliance. April 2015.
- 2012 *Renewable Energy Grant Recommendation Program: Process and Impact Evaluations*. Principal in Charge for comprehensive two-volume study. Alaska Energy Authority.
- 2011 "Solar in Nepal: Small Systems, Big Benefits." *Solar Today*. July / August 2011.
- 2011 "National Clean Energy Standard: Congress Needs to Design It Properly." Perspective with Shaun McGrath and Jeff Lyng. *Solar Today*. July / August 2011.
- 2010 "National RPS Now!" *Solar Today*. July / August 2010.
- 2009 "Carbon Regulation: What's the Most Effective Path?" *Solar Today*. June 2009.
- 2009 "Policy Recommendations for the 111th Congress: Tackling Climate Change and Creating a Green Economy." Prepared by the American Solar Energy Society Policy Committee.
- 2008 "Pennsylvania Solar Assessment." Final Report, November 25, 2008. Incorporated into American Council for an Energy-Efficient Economy, *Potential for Energy Efficiency, Demand Response, and Onsite Solar Energy in Pennsylvania*. ACEEE Report No. E093. Washington, DC: ACEEE, April 2009.
- 2008 "Solar Market Transition in New Jersey: Promise and Progress towards Sustained Growth." *Proceedings of Solar 2008*, American Solar Energy Society.
- 2004 "Cost Effective Contributions to New York's Greenhouse Gas Reduction Targets from Energy Efficiency and Renewable Energy Resources." *Proceedings of 2004 ACEEE Summer Study on Energy Efficiency in Buildings*.
- 2002 "The Ten Percent Challenge: A Participatory Community Scale Climate Campaign." *Proceedings of 2002 ACEEE Summer Study on Energy Efficiency in Buildings*. Volume 9, (with Tom Buckley, Jennifer Green, and Debra Sachs).
- 2000 "Implementing and Monitoring Community-Based Climate Action Plans." *Proceedings of 2000 ACEEE Summer Study on Energy Efficiency in Buildings*. Volume 9, pp. 149-160 (with Tom Buckley, Mark Eldridge, Debra Sachs, and Abby Young).
- 1998 *Eco-Efficiency Financing Resource Directory*. Electronic web-site, and printed directory prepared for the Environmental Protection Agency, Region I, New England.

Regulatory and Other Governmental / NGO Documents

- 2000 – 2012 *New Jersey's Clean Energy Programs – Honeywell Team Program Plans.* Led team on designing and implementing of Renewable Energy Program plans and initiatives. Many program plans and strategies for transition to market-based incentives.
- 1998 – 2008 *Long Island Power Authority's Clean Energy Initiative.* Lead Technical and Senior Advisor on Renewable Energy Plans, including the Solar Pioneer Initiative and Residential Energy Efficiency Programs.
- 2000 *The Climate Action Plan: A Plan to Save Energy and Reduce Greenhouse Gas Emissions,* Lead author for the Burlington (Vermont) Climate Protection Task Force.
- 1998 *Home Weatherization Assistance Program Environmental Impact Analysis.* Prepared for the Ohio Department of Development, Office of Energy Efficiency.
- 1997 *Achieving Public Policy Objectives Under Retail Competition: The Role of Customer Aggregation.* Prepared for the Colorado Governor's Office of Energy Conservation.
- 1997 *IDENTIFY: Improving Industrial Energy Efficiency and Mitigating Global Climate Change,* software and paper. For the United Nations Industrial Development Organization.
- 1997 *Review of the Swaziland Energy Information System and Report on LEAP Training Activities.* Prepared for the Ministry of Natural Resources and Energy, Government Kingdom of Swaziland.
- 1996 *Evaluation of the IDB's Policies and Practices in Support of Renewable Energy and Energy Efficiency: A Report to the Inter-American Development Bank.* Brower and Company and Tellus Institute.
- 1996 *Action Plan for the Massachusetts' Industrial Services Program (ISP),* prepared for the Sustainable Industries Initiative of the Corporation for Business Work and Learning.
- 1995 *Framework for National Energy Planning: Mission Report,* The Republic of Maldives. United Nations Department for Development Support and Management Services.
- 1994 *The SEI / UNEP Fuel Chain Project: Methods, Issues, and Case Studies in Developing Countries. Venezuela Case Study.*
- 1994 *Future Energy Requirements for Africa's Agriculture (Sudan Case Study).* Report to the African Development Bank by the UN Food and Agriculture Organization.
- 1994 Report to the Idaho Public Utility Commission on Suggested Cost Allowances for the Idaho Power Company's DSM Programs. Prepared for the Idaho Public Utilities Commission, Tellus Report No. 94-177.
- 1994 Review of Pennsylvania Electric Company's 1995 Demand Side Management Filing. Prepared for: Pennsylvania Office of Consumer Advocate. Tellus Study No. 94-071.
- 1994 Review of Union Electric Company's Electric Utility Resource Planning Compliance Filings. Prepared for: The Missouri Office of Public Counsel. Tellus Study No. 93-300.
- 1994 *Incorporating Environmental Externalities in Energy Decisions: A Guide for Energy Planners.* A Report to the Swedish International Development Agency. SEI-B Report No. 91-157.

Leadership

- 2017 – 2019 Energy Coop of Vermont, Board Member and Treasurer.
- 2013 Solar 2013, “Power Forward, Baltimore Maryland.” Chair of Conference Advisory Committee responsible for recruiting and coordinating four main conference plenary sessions.
- 2012 – 2013 American Solar Energy Society (ASES), Chair of the Board.
- 2012 Policy Track Chair for the World Renewable Energy Forum, Denver, Colorado, May.
- 2009 – 2012 ASES Policy Committee, Board Member and Chair.
- 2007 Vermont Governor’s Climate Change Committee, Member of the Plenary Working Group.
- 2000 – 2010 Renewable Energy Vermont, Founding Board Member, Past Board Chair.

Education

Ph.D., Energy Management and Policy Planning, University of Pennsylvania, Philadelphia, Pennsylvania (PA), 1993.

- Fulbright Scholar: Research on energy decision-making in rural Nepal, 1991 – 1993.

Master’s, Appropriate Technology and International Development, University of Pennsylvania, Philadelphia, PA, 1989.

B.A., Geography and Political Science, Middlebury College, Middlebury, VT, 1986.

Other Qualifications

Nepal, Himalayan Light Foundation. Installed solar lighting systems in 3 remote health clinics and 3 homes, 2010.

Advanced PV Installation certificate. Solar Energy International, 2010.

Peace Corps volunteer. Sierra Leone, 1984 – 1986.

Languages

- Nepali: ILR Level 3, speaking; ILR Level 2, reading
- Krio and Mende (Sierra Leone): ILR Level 2, speaking

Software competency

- LEAP (Low Emissions Analysis Platform), Stockholm Environment Institute. Former trainer and current Principal Investigator of team using scenario modeling on three projects.
- NREL System Advisor Model. Financial and technical modeling tool for renewable energy systems.

EXHIBIT D



TC PipeLines, LP announces GTN XPress to enhance market access for growing WCSB supply and allow additional market penetration along GTN’s system

November 01, 2019 06:30 ET | Source: [TC PipeLines, LP](#)



HOUSTON, Nov. 01, 2019 (GLOBE NEWSWIRE) -- News Release – TC PipeLines, LP (NYSE: TCP) (TC PipeLines or the Partnership) is pleased to announce that its Gas Transmission Northwest, LLC (GTN) interstate pipeline system will move forward with its GTN XPress project for approximately \$335 million. This project will both increase the reliability of existing transportation service and provide up to 250,000 Dth/d of additional firm transportation service on the full path of the GTN system from Kingsgate, Idaho to Malin, Oregon.

Along with TC Energy Corporation’s system expansions upstream, GTN XPress will enhance market access and reliability for growing Western Canadian Sedimentary Basin (WCSB) supplies and allow additional market penetration along GTN’s system in the Pacific Northwest. GTN XPress has been approved by the Board of Directors of TC PipeLines GP, Inc., the Partnership’s general partner (the General Partner), and is expected to be completed through a multi-phase construction process by November 2023.

“The successful open season for incremental capacity demonstrates the significant continued interest out of the WCSB to secure access to high value downstream markets. Additionally, local distribution companies in the Pacific Northwest are looking at the WCSB to diversify their supply sources,” said Nathan Brown, President of the General Partner. “GTN XPress reflects TC PipeLines’ and GTN’s commitment to providing customers timely and reliable access to these markets through appropriate facility replacements, expansions and services.”

at stations along GTN's existing system footprint. The project's reliability and horsepower replacement work is anticipated to be in service by the end of 2021 and will account for more than three quarters of the total project cost. These costs are expected to be recovered in recourse rates. The work associated with the incremental firm capacity is anticipated to be commercially phased into service through November 2023 and is fully underpinned by fixed negotiated rate contracts with an average term in excess of 30 years beginning in 2022. The incremental capacity is expected to generate approximately \$25 million in revenue annually when fully in service.

The project is subject to normal regulatory and permitting approvals, which we expect to be obtained in the normal course as the project progresses.

Funding for the project will be accomplished using a combination of new term debt at GTN together with equity contributions to GTN from the Partnership. TC PipeLines has existing capacity to fund these contributions utilizing a combination of its existing cash together with borrowings under its revolving credit facility.

About TC PipeLines, LP

TC PipeLines, LP is a Delaware master limited partnership with interests in eight federally regulated U.S. interstate natural gas pipelines which serve markets in the Western, Midwestern and Northeastern United States. The Partnership is managed by its general partner, TC PipeLines GP, Inc., a subsidiary of TC Energy Corporation (NYSE: TRP). For more information about TC PipeLines, LP, visit the Partnership's website at www.tcpipelineslp.com.

Cautionary Statement

This news release includes certain statements concerning expectations for the future that are forward-looking statements as defined by federal law. These forward-looking statements are subject to a variety of known and unknown risks, uncertainties, and other factors that are difficult to predict and many of which are beyond the Partnership's, General Partner's and management's control. An extensive list of factors that could affect future results are discussed in the TC PipeLines, LP Annual Report on Form 10-K and other reports and documents filed from time to time with the Securities

to reflect new information or events.

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PDF available: <http://ml.globenewswire.com/Resource/Download/b2b83c2e-adb8-411f-83d6-12047e691481>.

Attachments



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Recommended Reading

March 03, 2021 08:00 ET

Source: [TC PipeLines, LP](#)

TC PipeLines, LP and TC Energy complete merger

CALGARY, Alberta, March 03, 2021 (GLOBE NEWSWIRE) -- TC Energy Corporation (TSX, NYSE: TRP) (TC Energy), and TC PipeLines, LP (NYSE:TCP) (TCP) today announced that they have completed the previously...



February 26, 2021 11:38 ET

Source: [TC PipeLines, LP](#)

TC PipeLines, LP and TC Energy announce unitholder approval and effective date of merger

CALGARY, Alberta, Feb. 26, 2021 (GLOBE NEWSWIRE) -- TC Energy Corporation (TSX, NYSE: TRP) (TC Energy) and TC PipeLines, LP (NYSE:TCP) (TCP) announced that at the special meeting of TCP common...



TC Pipelines L P (TCP) Q3 2019 Earnings Call Transcript

By [Motley Fool Transcribers](#) - Nov 8, 2019 at 12:01AM

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TCP earnings call for the period ending September 30, 2019.

TC Pipelines L P (TCP)

Q3 2019 Earnings Call

Nov 7, 2019, 11:00 a.m. ET

Contents:

- Prepared Remarks
- Questions and Answers
- Call Participants

Prepared Remarks:

Operator




IMAGE SOURCE: THE MOTLEY FOOL.

Good morning, ladies and gentlemen. Welcome to the TC PipeLines, LP 2019 Third Quarter Results Conference Call.

I would now like to turn the meeting over to Ms. Rhonda Amundson. Please go ahead.

Rhonda Amundson -- *Investor Relations*

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Thank you, Operator and good morning everyone. I am happy to welcome you to TC PipeLines' third quarter 2019 conference call. I'm joined today by our President Nathan Brown; our VP and General Manager Janine Watson; and our Principal Financial Officer Chuck Morris. Please note that a slide presentation will accompany their remarks and is available on our website at tcpipelineslp.com where it can be found in the Investor Section under the heading Events and Presentations. Nathan will begin the call today with a review of TC PipeLines' 2019 third quarter results together with an overview of our GTN XPress project which was announced last Friday November 1. Janine will provide a commercial update on the Partnership's assets and our

growth program. Following which Chuck will provide a review of our financial results for the third quarter. Nathan will return and wrap-up our remarks with a brief discussion of our growth strategies and close with some key takeaways. Following the prepared remarks I will ask the conference operator to coordinate your questions.

Before we begin I would like to remind you that certain statements made during this conference call before we're looking regarding future events and our future financial performance. All forward looking statements are based on our beliefs as well as assumptions made by an information currently available to us. These statements reflect our current views with respect to future events and are subject to various risks uncertainties and assumptions and discuss in detail in our 201810 k as well as our subsequent filings with the Securities and Exchange Commission. If one or more of these risks or uncertainties materialized or if the underlying assumptions proven correct. Actual results may differ materially from those described in the forward looking statements. Please also note that we use the non GAAP financial measures EBITDA and distributable cash flows during our presentation. EBITDA is an approximate measure of our operating cash flow during the period and reconciles directly to net income. And distributable cash flow is presented to provide a measure of cash generated during the period to evaluate our cash distribution capability. These measures are provided as a supplement to GAAP financial results and we provide a reconciliation to the most closely related GAAP measures in our SEC filings.

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With that I'll now turn the call over to Nathan.

Nathan Brown -- *President*

Thanks, Rhonda. Good morning everyone and thanks for joining us today. As outlined this morning in our news release and looking at slide 4 I'm pleased to report the TC PipeLines had a very good quarter a solid results in our portfolio pipeline assets continue to perform as expected. We generated \$56 million in net income during the third quarter 2019 10% lower than the 62 million we earn in the same period of 2018 largely due to the partial payout of licensed contracts in late 2018 together with lower rates on many of our pipelines following the 2018 FERC actions. Our EBITDA was similarly lower year-over-year at \$100 million for the quarter compared to \$113 million in 2018. Our distributable cash flow was \$78 million for the third quarter of 2019 compared to the third quarter of 2018 when our DCF was \$83million. The primary drivers for the decrease for our lower earnings and EBITDA together with generally higher maintenance capital expenditures resulting from higher system utilization in response to sustained increase natural gas transportation volumes. These cost increases were partially offset by an increase in distributions from Tuscarora related to the earnings generated in prior periods.

As the expected our results continue to reflect decreases from both our pricing contract payouts as well as the rate decreases resulting from the 2018 FERC action and higher maintenance costs. Although it has a drag on distributed cash flow reflect the positive environment of higher natural gas flow in our pipelines and these costs will be added to rate days in due course and your return on enough capital produce tolls. We paid out 47 million and distribution for unit holders story in an older string of quarter the same as what we paid out in the third quarter 2018. The partnership also declared third quarter distribution and \$0.65 per combination which is consistent with our first and second quarter 2019 distribution and for each quarter 2018. They believe the maintain this distribution the current level is prudent in order to continue building a healthy financial position which will allow us to still fund our bank growth as we move forward. Chuck will discuss our financial results in more detail a little later in the call. We continue to

advance our growing organic growth programs and are very excited to have announced the GG and express project last Friday November 1 or largest project and our 20 year history. This is an approximately 335 million integrated reliability and expansion projects to enhance market access for growing natural gas supply out of the Western Canadian sedimentary basins and allow additional market penetration along details pipeline system and the details of the project on the next slide. But first let me go the remainder of record quarter highlights. Also I knew this quarter; we're proceeding with a \$13 million expansion on our Tuscarora pipeline. Tuscarora XPess is underpinned by a 20 year contract and will transport approximately \$15000 per day additional volumes when complete in November of 2021.

Our other organic projects are progressing well with phase two of Portland Xpress and service as well as phase one of Westbrook Xpress both providing incremental capacity in our PNGGS pipeline system in the northeast. Janine will discuss these and other commercial zones developments in more detail in a minute or two. During the third quarter look at our financial position our bank leverage ratio was approximate 2.8 times and our distribution coverage also remained very strong and possibly 1.7 times for the quarter and in September 30 2019. These results are a testament to the resiliency of our portfolio and the continued success of our commercial strategies. This combined and to create ongoing value for you. Turning now to slide 5. Our GTN XPress project is an exciting development for us and for GTN and shippers. This is an approximately \$335 million project that consistent both reliability work on the GTN system together with additional firm transportation service up to 250000 dekatherms per day on full path from Kingsgate Idaho Malin Oregon. In concert with TC Energy's upstream system expansion GTN XPress will provide our shippers with access to high value downstream markets as well as diversifying supply sources for all bases at Pacific Northwest.

The project consists of both horsepower replacement and other reliability work together with Brownfield compression and facilities and existing stations along the system. The map on this slide shows a handful of stations I'll be part of the project and I'll work will be conducted in existing yards and locations. More than three quarters of the total cost of this project relates to reliability working as expected we recover in recourse rates. Incremental firm capacity will be phased into service through November 2023 as fully underpinned by fixed negotiating contracts with an average term in excess of 30 years. It has no capacity anticipated generate

approximately 25 million in annual revenue when fully and service. In keeping with our sole funding objective the project will be funded with new term debt as UTM. Together with equity contributions from partnership or equity injections will come from existing cash on hand together with borrowings under our revolving credit facility. All this project is very positive self RTC pipelines and represents the sort of Brownfield long term contract good solid returning project that we can sell fund to provide long term growth and value for our stakeholders

I'll now turn the call over to Janine Watson our VP and General Manager to provide additional color on assets our commercial developments together with our market outlook.

Janine Watson -- *Vice President and General Manager*

Thanks Nathan, and good morning everyone. Moving on to slide 6 I will provide a quick overview of the operating performance of our assets. Our pipeline will continue to provide on reliable services across our footprint generating solid results during quarter. Accepting Bison our pipelines operated at high levels of availability and utilization encountering no significant operational issues. In the west demand is strong for transportation service in our GTN pipeline. GTN is effectively sold out of firm and continues to make discretionary sales contributing to this assets continue to consistent performance. TC Energy's progress is the bottlenecking activities upstream of GTN resulting in approximately 150000 dekatherms a day of incremental supply capacity into this pipeline coming into service as of this November 1. In the Northeast PNGTPS successfully marketed short-term services in Q3 as hot weather in New England drove robust demand for gas to serve power load. With our PXP Phase II and Westbrook XPress Phase I projects coming into service as of the beginning of the month all of PNGTS its firm capacity is contracted out to 2030 and beyond.

Looking to our equity investments as it's been the case for the past few years Northern Border experienced strong demand for its capacity operating at very high levels of throughput. Its firm capacity was once again sold out in Q3 and our commercial team took advantage of market conditions to generate incremental revenue by offering it seasonally available capacity on short-term basis. Bakken receipts continue to account for more than half of the daily receipts on to this pipeline. We've remained committed to our Bison Pipeline and continue to explore both

natural gas line reversal and liquids repurposing development opportunities for this asset. Overall we're confident that our assets are well-positioned geographically with last mile connection to the key market centers across North America. Our pipelines are highly contracted reflecting ongoing demand for their natural gas transportation services. We have key connections out of the Western Canadian sedimentary basins one of the most prolific supply bases in North America through GTN Northern Border and Great Lakes and through Iroquois and PNGTS at the Eastern end of TC Energy's mainline system. And we're very encouraged by the high utilization rates on our pipelines which are driving solid revenues and cash flow.

Our business development team is in the process of soliciting customer interest in several potential projects across TCP's footprint designed to meet the demand for incremental transportation at competitive costs to our customers. And I will discuss those a little bit further on the next slide. Turning to slide 7. A key focus for us is the execution of our organic growth program where we are seeking to execute a portfolio of Brownfield growth projects within our existing footprint and targeting a five to seven times growth multiple. Our Portland XPress project is proceeding on time with Phase 1 in service in late 2018 Phase 2 just last week and Phase 3 in service plans for November 1 of 2020. This project is approximately \$85 million in total capital costs and will add about 183000 dekatherms per day of capacity to PNGTS. We're also proceeding with our Westbrook XPress at PNGTS. This is an approximately \$125 million multi-phase expansion project designed to help serve markets in Northern New England and Atlantic Canada but have until recently been served by offshore gas production from Sable Island and Deep Panuke. Phase 1 of this project will be supported by pressure agreements with our upstream affiliated pipelines bring an initial 43000 dekatherms a day into service starting in November of this year without the need for any construction. This phase was phased into service on November 1st 2019.

Phase II requires the addition of a compressor and associated facilities at an existing station on the Portland system and will bring up further 59000 dekatherms of firm capacity to this pipeline system intended to be in service by November of 2021. And the Management Committee has authorized a Phase III expansion for this pipeline which will provide capacity for an additional 18000 dekatherms per day to be in service by November of 2022. Once both these projects are fully in service PNGTS's capacity will have almost doubled from 210000 dekatherms per day

the beginning of 2018 to close to 400000 dekatherms by the end of 2022. And as Nathan mentioned earlier we recently announced that GTN is proceeding with this GTN Express project which is expected to be fully in service in November of 2023. This is an integrated reliability and expansion project underpinned by fixed negotiated rate contracts for an average term in excess of 30 years. It is both a supply push and demand pull project with about 60% of the new contracts supplied by -- supported by WCSD gas seeking to diversify its market access and 40% supported by Pacific Northwest utilities looking to diversify their supply portfolio.

And we're also progressing with our Tuscarora Express project a smaller 13 million compressor - compression project to transport 15000 dekatherms per day of additional volumes when completed in November of 2021. This project will service modest demand growth in and around Carson City and provides supplier diversity for the area. Now looking forward we continue to assess what other opportunities may arise to further take advantage of TCPs existing pipeline network. You can see on the map that we have highlighted four current opportunities being developed. As we've noted on previous earning calls we are developing the North Baja Express project an estimated \$90 million project to transport additional volumes of natural gas along North Baja mainline system. The progress was initiated in response to market demand to provide firm transportation service of up to about 495000 dekatherms per day between Ehrenberg Arizona and Ogilby California. A successful open season was conducted in April of 2019 with a potential in service date as early as 2023. The project is subject to various commercial and other conditions as we move forward. We currently anticipating an FID decision on this project in July of 2020. Also of note is the potential expansion project on our Iroquois system which we are refer to as the Enhancement by Compression or the ExC project. This project has the potential to optimize the Iroquois system to meet current and future gas supply needs of utility customers while minimizing the environmental impact to compressor enhancements and existing compressor stations along the pipeline is successful. The project total capacity is expected to be approximately 125000 dekatherms per day with an estimated in service date in November of 2023. Still in the consultation phase and subject to various approvals the capital cost of this project is still to be determined as the optimal facility set is finalized over the course of the regulatory process. This project is intended to be 100% underpinned by contracts with 20 year term.

Turning to the Bakken area. We note that there is a significant supply push seeking incremental takeaway capacity that could be met by our Northern Border and Bison pipeline. Our business development teams assessing several options but the one-off focus on today is our Bison reversal project. This is a multi leg supply path from northern border state line Watford City receipt point down license for delivery on to third party pipelines and destined for ultimate delivery to Cheyenne. This project could provide an economic path to market for about 430000 dekatherms a day of Bakken production by Q4 of 2022. And finally our business development team is focused on finding opportunities to offer seamless transportation service from Canada to US markets via several paths which include our Great Lakes pipeline. During the second quarter of 2019 Great Lakes reached an agreement on terms of new long term transportation capacity contracts with its affiliate in our pipeline coming The contracts are for 15 years term from late 2021 to 2036 with a total contract value of \$1.3 billion and are continues to work to secure commercial support and regulatory approvals for its proposed service offerings. So in summary TCPs management is pleased with our progress as we execute on our existing growth program and we continue to work toward new self funded growth opportunities across the TCPs footprint.

I will now turn the call over to Chuck Morris our Principal Financial Officer to discuss our third quarter financial results in more detail.

Chuck Morris -- *Principal Financial Officer*

Thanks Janine and good morning everyone. Moving on to slide 8 I'll now review the partnerships third quarter 2019 financial results. Net income in the third quarter was \$56 million dollars down approximately 10% from \$62 million in the third quarter of 2018. This equates to \$0.76 per unit compared to \$0.79 per unit in 2018. Several factors impacted our Q3 2019 results the net effect of which led to the decrease year-over-year. First revenue from Bison was marketably lower as a result of the election of two of its customers in Q4 of 2018 to payout their transportation agreements. Second as Nathan mentioned earlier we saw rate reductions on several of our pipelines emanating from the 2018 FERC actions. In addition to earlier decreases on GTN Great Lakes Northern Border and Iroquois Tuscarora had a scheduled 10.8% rate decrease effective August 1st of this year as part of the settlement reach for this customers in 2019. North Ba

sales and short-term transportation services were also lower year-over-year as demand for natural gas transportation returned to more normal levels in California during the period partially offsetting these decreases GTNs revenue was higher in Q3 year-over-year despite the impact of its schedule rate decrease at the start of 2019.

GTNs Q3 2018 revenues were impacted by a one-time charge of \$9 million related to its rate settlement. PNGTSs revenues were also higher this quarter primarily as a result of higher discretionary services sold during the unseasonably warm summer this year. In addition to revenues from its PXP Phase I project that went into service leads in 2018 partially offset by lower contracted revenue resulting from the expiry of certain of its legacy contracts. I'll discuss the other elements of earnings on the next slide. The partnership paid distributions of 47 millions of common unit holders in the third quarter the same amount that was paid in Q3 of 2018. As Nathan mentioned earlier which could we declared our third quarter 2019 distribution of \$0.65 per common unit. This is consistent with that declared for both of first and second quarters of 2019 and for each of the preceding quarters in 2018. The partnership EBITDA was \$100 million in the third quarter 12% lower than that of the same period in 2018. And distributable cash flows were \$78 million in the third quarter of 2019 \$5 million lower year-over-year.

The decrease was due to the same factors impacting that income together with generally higher maintenance capital expenditure on our pipeline systems during the quarter. Turning to slide nine revenues from our consolidated pipelines of \$93 million were lowered over the same period for last -- the same quarter for last year for the reasons I've outlined on the previous slide. Equity earnings in the third quarter of 2019 were \$3 million lower than the same quarter of 2018 primarily due to the increasing operating costs to Great Lakes related to its compliance programs and right away work alongside system combined with higher allocated costs from TC energy together with it was scheduled rate reduction emanating from its 2019 rate settlement as a result of the 2018 productions. Operating maintenance and administrative expenses during the third quarter were slightly higher than in the same quarter of 2018. As a result of ongoing pipeline compliance programs and increased allocated costs from TC Energy. Depreciation expense was lower by approximately 24% resulting from the asset impairment on Bison which we recognized during the fourth quarter of 2018. Financial charges were 13% lower in the th.

quarter of 2019 versus the same period of 2018 due to the full repayment of \$170 million term loan in Q4 of 2018. And further reductions in our outstanding debt balance during the year.

Moving now on to our financial position on Slide 10. Our healthy financial position is reflective of our proactive measures that we have taken over the last year and a half. Our balance sheet is strong with a solid capital structure underpinned by our high quality energy infrastructure pipeline assets. Our investment grade credit ratings including our recent one notch upgrade from S&P from triple B minus to triple B flat provide us with the financial flexibility as we look to organically grow our portfolio in the future. And we believe our ratings reflect our solid financial condition and outlook. We look forward to executing on our suite of organic growth projects on a self funded basis without the need to access the equity capital markets. Our liquidity position remains strong. The partnership has \$500 million of undrawn and available borrowing capacity under our senior credit facility as of November 7 2019. Consistent with our self funding model in order to build capacity for future organic growth we have continued to prudently manage our outstanding debt balance. In that regard we have reduced our overall debt by \$150 million this year-to-date resulting in a bank leverage ratio of 2.8 times.

The bank leverage ratio is expected to migrate to the high threes to little four times area over time as the impact of one-time items including the Bison contract buyout go through the calculation. In response to the 2018 productions we rightsized our distribution in 2018 and have maintained it in 2019 resulting in a solid distribution coverage ratio of 1.7 times for the quarter ended September 30 2019. As Janine and Nathan have mentioned earlier we continue to execute on our organic growth program announcing both the GTN Express and Tuscarora Express projects this quarter with both TXP and Westport Express projects proceeding on budget. As we continue to use our steel undergrounded advantage across our pipeline systems to explore additional growth opportunities.

This concludes my remarks on the third quarter financial results. I'll now turn the call back over to Nathan.

Nathan Brown -- *President*

Thanks Jeff. On our first slide 11 as I mentioned at the outset we had a very good quarter this year and our assets continue to perform well proving out the resilience and strong position. We're very excited with the announcement of our GTN Express project a week ago. This project is reflective of potential organic growth across our suite of assets and fits our strategy to develop creative projects that we could self fund to provide ongoing value for our stakeholders. Going forward our cash flow will continue to be derived from our portfolio of critical natural gas pipeline infrastructure assets underpinned by long-term shipper pay contracts with credit worthy shippers. We continue to prudently manage our financial positions and believe our actions have resulted in a strong balance sheet. Our bank leverage ratio is currently approximate 2.8 times and our distribution coverage this quarter is very healthy 1.7 times.

These healthy metrics are enabling us to self fund organic growth as outlined earlier in each of our GTN Tuscarora NB GTN projects. Longer term we are targeting to maintain our bank leverage ratio in the high-3 and low-4 times area and distribution coverage ratio of approximately 1.3 to 1.4 times. We reiterate that we do not need to access the equity capital markets to fund our current growth program as Jeff noted. Consistent with our self funding model and in order to build capacity for organic growth we have continued to pay down debt levels this year and execute our delivering program. Our focus remains on the optimization of our asset portfolio and will include organic growth over time such as our current portfolio projects on GTN Tuscarora NB GTN and our North Baja and Iroquois development opportunities. We continue to advance other options that fit within our geographic footprint and be our return on expectations. Bottom line is that our metrics are healthy and we're focused on executing our current and potential growth projects in order to drive long-term growth and continued value to our stakeholders.

I'll now turn the call back over to Rhonda.

Rhonda Amundson -- *Investor Relations*

Thank you Nathan and now I'd like to open the call up for questions. Operator please go ahead.

Questions and Answers:

Operator

Thank you. Well now take questions from the telephone lines. [Operator instructions] Our first question is from Jeremy Tonet from JP Morgan. Please go ahead.

Unidentified Participant

Hey, good morning. This is Charlie and congrats on GTN Express. I wanted to just ask about the EBITDA contribution. Just given a lot of chunk of that is associated with the reliability work. Should we kind of expect to see a proportion step up in I guess would be late 21 early 22 and then the residual in 23. And it's five to seven times is that kind of a good multiple figures for this project?

Nathan Brown -- *President*

Yeah. Thanks for question. I'd say that that's generally what we're getting to. We obviously are looking through our regulatory strategy. I think we've got a good basis there. And that's when we do have the right reset on GTN in late 2021 Jan 1 2022. So that's when that's going to roll through we anticipated and yes we're targeting at 5 to 7 times.

Unidentified Speaker

And how much are you putting at the project level that was incremental?

Chuck Morris -- *Principal Financial Officer*

Yes. It's Chuck here. We'll look to fund that this opportunity set with -- I guess the way to think of it is about 50% debt at the asset level and 50% of the contribution coming from TC PipeLines again through cash flow. And if needed use of the revolver at TCP. We would note that from a GTN perspective it does carry a stand-alone rating at 8 points. So again from a ratings perspective is highly financeable at the asset level.

Unidentified Speaker

Okay great, And then second question on a Northern Border can you just comment on BT [Phonetic] levels are just continue to push higher? I think your partner noted a tariff change associated with BT levels coming next year. I'm not sure if that's correct.

Chuck Morris -- *Principal Financial Officer*

Yeah. Well we can confirm that. We're obviously working closely with ONEOK on that. We note that we are working on tariff changes to address it and are working with point operators on the other side to address the issue. So yes moving forward we kind of stay tuned on that but it's not impactful just yet. But we definitely have it as a focus and we are coordinated with ONEOK.

Unidentified Speaker

Okay great. And then the last one on -- with in respect to Bison a reversal there I guess how much would need to be greenfield pipe would need to be added there to kind of complete that reversal down to Cheyenne hub?

Chuck Morris -- *Principal Financial Officer*

Yes. In terms of pure greenfield pipe good question. It's an interconnected system for us. We have Bison connected directly into northern border. So insofar as this is a market solution with all the movements [Phonetic] in that. Can't really speak to any off system activated maybe going to complete it but as far as we're concerned we don't see any greenfield within our assets.

Unidentified Speaker

Perfect. Thank you.

Chuck Morris -- *Principal Financial Officer*

And sorry operator we're hearing a chiming noise. I don't know if that anything that you can control.

Operator

I'm trying to locate the noise. Thank you.

Okay.

Our following question is from Matt Taylor from Tudor Pickering Holt & Co. Please go ahead.

Matt Taylor -- *from Tudor Pickering Holt & Co. -- Analyst*

Yes. Thanks for taking my questions. Just one more on the Bakken in there. Has the project timeline slipped a little bit there into 2022? Or is this still what you're expecting? In thought the previous guidance was 2021?

Janine Watson -- *Vice President and General Manager*

Yes. I think it has slipped a little bit. There is an option for an early end service that may or may not be -- the window may be closing on that.

Matt Taylor -- *from Tudor Pickering Holt & Co. -- Analyst*

You keep driving it some further.

Janine Watson -- *Vice President and General Manager*

So currently we're looking at 2022.

Matt Taylor -- *from Tudor Pickering Holt & Co. -- Analyst*

It seems to be like producers clearly need to take away I mean we've talked about BTU content etc. and you guys have the pipe to do it? Can you just speak to what seems to be the hold-up?

Chuck Morris -- *Principal Financial Officer*

Yeah its certainly within the commercial discussions and ongoing detailed stuff there that we're we are not going to really comment on here but your points well taken. And certainly something we're focused with the new build capacity there. Just getting all the commercial terms lined

is the Bakken type getting done? May be pushing schedule just a little bit but we're still working very hard to get that paper done.

Matt Taylor -- *from Tudor Pickering Holt & Co. -- Analyst*

Yeah thanks for that. And then moving on to 2020 here it'd be helpful just how are you guys looking at EBITDA how is it shaping up versus 2019 with you had mentioned there's PXP Phase 1 Phase 2 and Westbrook Phase 1 now into service and then obviously there's some offsets there with FERC action impacts that I think the previous guidance was 20 million to 30 million. So just curious how 2020 is shaping up?

Chuck Morris -- *Principal Financial Officer*

With that I'll say the act of the dent we had on the impact from FERC actions is in the rearview mirror. And it's blending in with the all the other activities that we've done. So as those changes came through our rates we have -- we've had additional contracting we've got additional commercial optimization of our different systems that it's really hard to sort of separate that impact out on a rolling basis going forward. As you know we don't give any kind of specific guidance on what we're going to be hitting in the future. But -- working through all of that I think we've got a good run rate here for 2020. And as we get the PXP projects and -- excuse me Westbrook spread coming into revenue immediately that will have the uplift from that. And then looking forward in 2021 will have the remainder of the Bison projects falling off as we work through the rest of the zone.

Matt Taylor -- *from Tudor Pickering Holt & Co. -- Analyst*

Is it think but as you mentioned it's immediately so two-thirds basically of PXP one-third of Westbrook some additional volumes on GTN and then you've mentioned some of the FERC action is blended in there. Is that the right way to be thinking about this?

Chuck Morris -- *Principal Financial Officer*

Yeah yes. It's correct.

Matt Taylor -- *from Tudor Pickering Holt & Co. -- Analyst*

Then one last one just what types of projects are you guys planning for? You had mentioned the fourth one on the bullet point there on the slide of incremental projects of more market access for the WCSB? Is that on top of the Great Lakes recontracting? You are looking at doing more capacity in Great Lakes just curious on your thoughts?

Chuck Morris -- *Principal Financial Officer*

Well we always look for solutions on Great Lakes to typically fill it up. It has some term left on the volume for its existing kind of name plate capacity that can come with another kind of an integrated project where it requires any additional capital spent on the other side will remain to be seen but it's -- we remained a good path out of Western Canada for gas with that type in the ground and access to dawn and other storage markets. So it continues to be an appealing path for those modules need to buy in market.

Matt Taylor -- *from Tudor Pickering Holt & Co. -- Analyst*

Great. Thanks for taking my questions.

Operator

Thank you. Our following question is from Michael Lapidès from Goldman Sachs Please go ahead.

Michael Lapidès -- *Goldman Sachs -- Analyst*

Hey guys, can you walk me a little bit through GTN Express; I just want to make sure I follow what's going on here? It seems like a great project by the way especially if you kind of track what's happening to Pacific Northwest gas prices a couple of times over the last year or so. But if I look at the capital it's \$335 million of capital when you talk about that the new firm capacity is getting \$25 million but I assume there's incremental revenue in addition to that \$25 million that will be recovered in the kind of the recourse rate. Is there a way to kind of back into what that amount level would be?

Nathan Brown -- *President*

Well I think everybody's got their models and from our perspective we have to work that through our regulatory execution strategy and how we get that calculates through our recourse rates. So we don't publish what we think that's going to be. But I'd say in terms of our execution on regulatory recovered pulls it's what we're kind of -- we're guiding toward an execution similar to what we've been able to accomplish from that.

Michael Lapidès -- *Goldman Sachs -- Analyst*

Okay, and am I right thinking about this that the first year that you'll have a full year run rate on the project would actually be 2024 so you've got commercial phase ins in November of 2022 and 2023?

Janine Watson -- *Vice President and General Manager*

Yes that would be correct.

Michael Lapidès -- *Goldman Sachs -- Analyst*

Great. Can you talk about the process a little bit for Iroquois and just kind of what has to happen to actually get that project done and just kind of the regulatory steps through that?

Chuck Morris -- *Principal Financial Officer*

It's a very measured project and certainly with the concerns in the region with the different departments that are required and regulators that have a construction scale and scope the project it's a very iterative project I'd say going a little more measured pace than what might have been difficult in the past. So that's why we're sort of more notably hesitant to get timelines and more depth around it I think the case for it is very compelling. The need for additional capacity into the market is obvious. And this is one that makes a whole lot of sense and we're working with customers as well as the regulators to make sure this is optimized in a way that is positive for everybody.

Michael Lapidès -- *Goldman Sachs -- Analyst*

Got it. Thank you. And then last question when you think about 2020 do you think your net debt balance during the course of the year kind of stays flat at the current level expands a little bit to help finance some of the growth. I'm just trying to think about what the balance sheet 12 months out may look like?

Nathan Brown -- *President*

Yeah, that's a good way to think of it in terms of. The debt reduction that we're going to be seeing over the course but also the ramp up if you will in terms of the funding that we're going to be doing for some of the growth projects. So flattening of the debt for a period here is really what we're seeing as we work with the curve the first couple of years of the growth portfolio program

Michael Lapidès -- *Goldman Sachs -- Analyst*

Meaning you're basically going to fund a lot of the growth out of the existing cash flow that's left over after you pay the distribution?

Nathan Brown -- *President*

That's correct. I guess the way to think of it is that for each of the expansion opportunities that we're looking at here as a general rule we'll be looking for 50% of the debt to be at the asset level and 50% to be contributed by like I guess if you want to call it equity from TCP but that equity is really in the form of cash available from operations as well as if needed would be borrowing on the revolver at TCP. So again just to reiterate we're not looking at any equity to be raised in the market if you will relative to the expansion program here. The exception to that would be we see debt capacity for 100% to be able to fund that PNGTS as well as the smaller to go with respect to Tuscarora.

Michael Lapidès -- *Goldman Sachs -- Analyst*

Got it. Thank you guys. Much appreciate it.

Operator

Thank you. [Operator Instructions] The following question is from Alex Kania from Wolfe Research. Please go ahead.

Alex Kania -- *Wolfe Research -- Analyst*

Thanks. I guess question just on the kind of opportunities there is has there been any I guess there was a sense of a potential kind of delay in permitting. Is there any kind of movement that you could see just based on the timing of your project? Or is it just a fix in service date that doesn't really move depending on what's going on for their downstream?

Chuck Morris -- *Principal Financial Officer*

Yeah we've got that we mentioned in next year to see that moves any -- if we have a negotiation at this point we don't. So until we do anything far more we wouldn't say we're going to move anything at this point. But we're sort of waiting for all the conditions to come together for that one before we get into too many more specifics.

Alex Kania -- *Wolfe Research -- Analyst*

Great. Thanks.

Operator

Thank you. Ladies and gentlemen this concludes the question-and answer-session. If there are any further questions please contact Investor Relations at TC Pipelines LP. I will now turn the call over to Rhonda.

Rhonda Amundson -- *Investor Relations*

Great. Thank you everyone for your participation today. We certainly appreciate your interest in TC Pipelines and look forward to speaking with you again soon. Bye.

Operator

[Operator Closing Remarks]

Duration: 40 minutes

Call participants:

Rhonda Amundson -- *Investor Relations*

Nathan Brown -- *President*

Janine Watson -- *Vice President and General Manager*

Chuck Morris -- *Principal Financial Officer*

Unidentified Speaker

Unidentified Participant

Matt Taylor -- *from Tudor Pickering Holt & Co. -- Analyst*

Michael Lapidès -- *Goldman Sachs -- Analyst*

Alex Kania -- *Wolfe Research -- Analyst*

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10 stocks we like better than TC PipeLines, LP

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See the 10 stocks

**Stock Advisor returns as of August 17, 2022*

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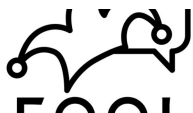
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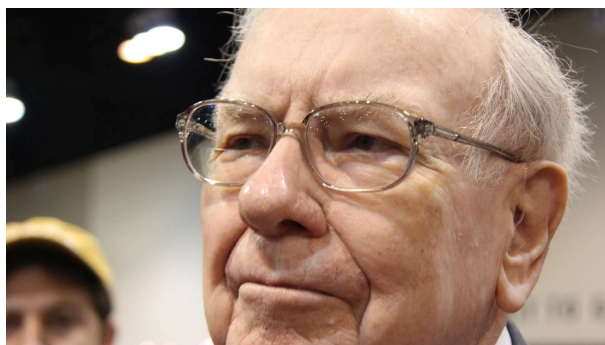


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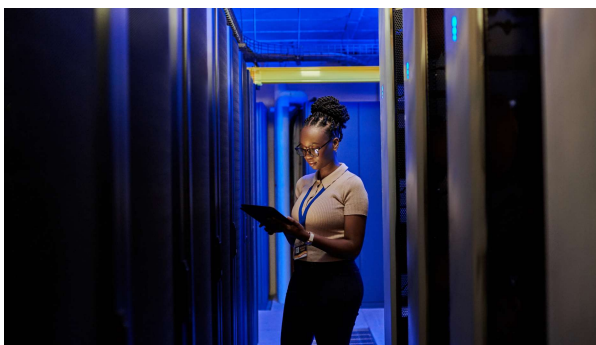


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Operations

Alberta Deep Basin NEBC Montney Gas/Condensate Peace River Triassic Oil

Striving to be the lowest-cost operator

Tourmaline has major positions in three large resources plays in the Western Canadian Sedimentary Basin: the Alberta Deep Basin, the Northeast British Columbia Montney and the Peace River Triassic Oil complex. The Company has carefully selected these resource plays based on rigorous subsurface technical and economic criteria. All three complexes are derisked through the drilling of over 1,200 wells and the infrastructure skeleton is complete across all complexes.

Alberta Deep Basin

250,000 boe/day
production

1,475 mmboe
reserves

9,700 locations
drilling inventory

888 total
wells drilled

[LEARN MORE](#)





Alberta Deep Basin

Largest Deep Basin land position with 9 million acres



NEBC Montney

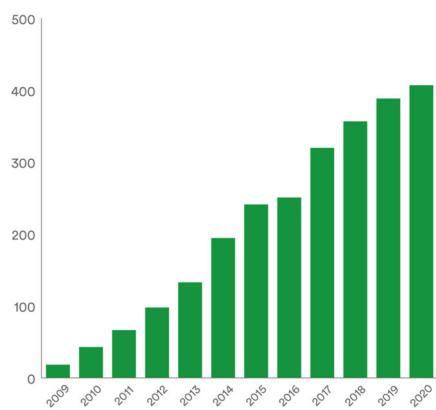
One of Canada's largest Montney producers



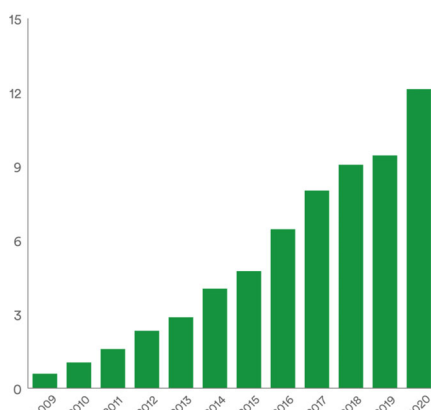
Peace River Triassic Lake

One of the lowest cost large scale oil resource plays in North America

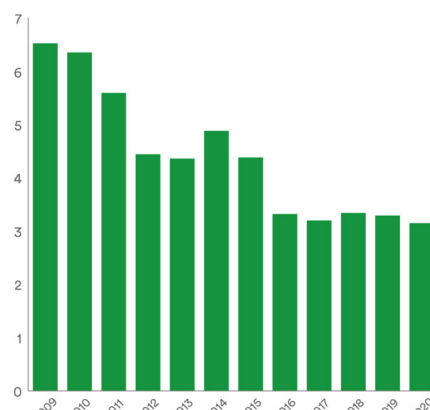
Tourmaline as at December 31, 2020



Production per Thousand Shares (BOEs)



Reserves per Share (BOEs)



Costs per Barrel of Oil Equivalent (\$/BOE)



Operations

Alberta Deep Basin NEBC Montney Gas/Condensate Peace River Triassic Oil

Alberta Deep Basin

Tourmaline is the largest producer in the Alberta Deep Basin, which represents over 50% of the Company's production and capital expenditures.

The Alberta Deep Basin is a multi-objective tight natural gas sand play area with up to 15 separate lower Cretaceous liquids-rich natural-gas-charged sand reservoirs.

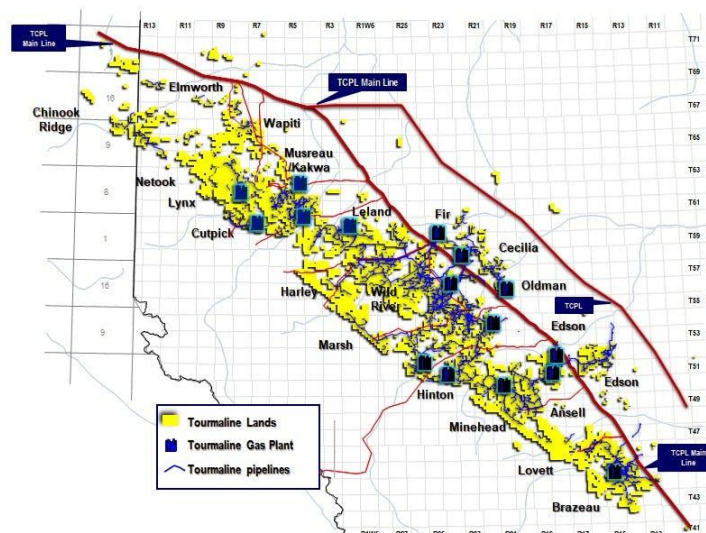
Tourmaline's target exploration and production area is in that portion of the Alberta Deep Basin where the entire lower Cretaceous stratigraphic section is gas saturated with no mobile formation water. The primary vehicle for accessing the extensive reserves in these stacked sandstones is multi-stage fracture stimulation in both horizontal and vertical well-bores.

Tourmaline currently has ownership interests in 16 natural gas plants in the Alberta Deep Basin, ten of which are 100% owned and operated by Tourmaline. In aggregate, Tourmaline has in excess of 1.5 bcf/d of natural gas processing capability within this plant network. Tourmaline's goal is to be one of the lowest-cost, most efficient operators in the Alberta Deep Basin, and the Company plans to optimize and systematically continue to further reduce costs of operating the Alberta Deep Basin assets.

250,000 boe/day
PRODUCTION

1,475 mmboe
RESERVES

9,700 locations
DRILLING INVENTORY





Tourmaline is a Canadian senior oil and natural gas company focused on long-term growth through an aggressive exploration, development, production and acquisition program in the Western Canadian Sedimentary Basin.

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Operations

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Striving to be the lowest-cost operator

Tourmaline has major positions in three large resources plays in the Western Canadian Sedimentary Basin: the Alberta Deep Basin, the Northeast British Columbia Montney and the Peace River Triassic Oil complex. The Company has carefully selected these resource plays based on rigorous subsurface technical and economic criteria. All three complexes are derisked through the drilling of over 1,200 wells and the infrastructure skeleton is complete across all complexes.

NEBC Montney

135,000 boe/day
production

4,393 locations
drilling inventory

[LEARN MORE](#)

1,578 mmmboe
reserves

560 total
wells drilled



Alberta Deep Basin

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NEBC Montney

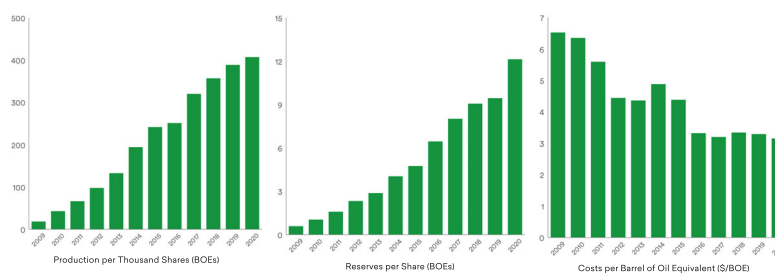
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Peace River Triassic Lake

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Tourmaline as at December 31, 2020





Operations

Alberta Deep Basin NEBC Montney Gas/Condensate Peace River Triassic Oil

NEBC Montney Gas/Condensate

Focused on "liquids rich natural gas" in the Montney

Technological developments, including the drilling of horizontal multi-stage fracture stimulation wells, have allowed access to the thickest, highest pressured and highest deliverability fine grained sandstone reservoirs of the Montney in the NEBC play area. Tourmaline's Montney EP program has been focused in the Groundbirch/Sunrise/Dawson area of the Peace River Arch, as well as the Gundy CK area, which the Company acquired through a significant asset acquisition in 2016

Tourmaline owns and operates five significant natural gas processing facilities with aggregate capacity of 325 MMcf/d with related gas gathering systems and NGL handling infrastructure. The Company is also planning a new 200 MMcf/d facility at Gundy in 2019 to efficiently process the liquids-rich natural gas produced as a result of ongoing development in the Gundy CK area including installation of an ethane rejection deep-cut gas processing facility. Tourmaline has also begun phase 2 construction of the Gundy Deep Cut Plant, with expected start-up for early 2022 adding another 200MMcf/d of capacity.

135,000 boe/day

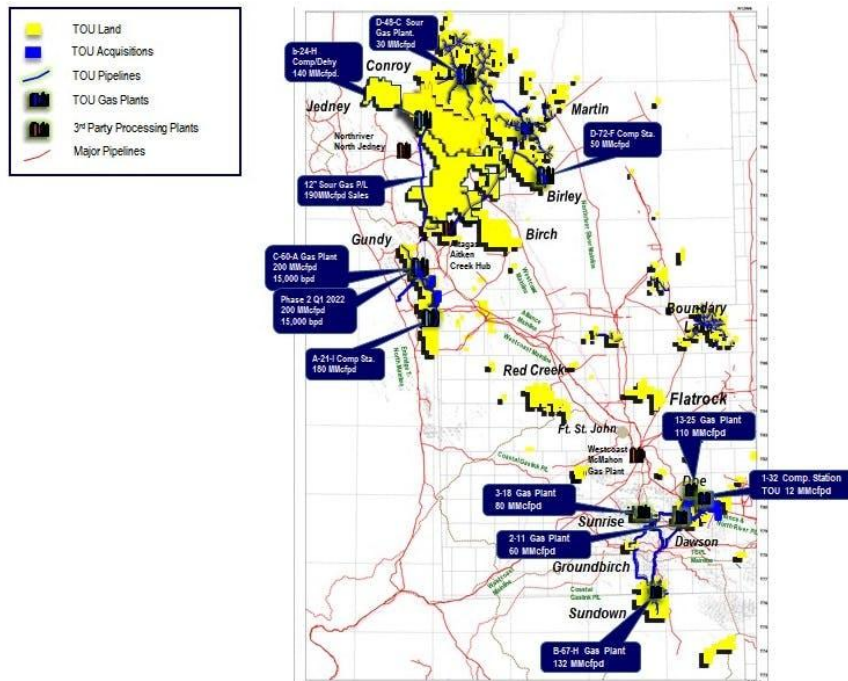
PRODUCTION (INCLUDING 350-360 MMCF/D NATURAL GAS; 7,500-8,500 BPD CONDENSATE)

1,578 mmboe

RESERVES

4,393 wells

DRILLING INVENTORY



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Operations

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Striving to be the lowest-cost operator

Tourmaline has major positions in three large resources plays in the Western Canadian Sedimentary Basin: the Alberta Deep Basin, the Northeast British Columbia Montney and the Peace River Triassic Oil complex. The Company has carefully selected these resource plays based on rigorous subsurface technical and economic criteria. All three complexes are derisked through the drilling of over 1,200 wells and the infrastructure skeleton is complete across all complexes.

Peace River Triassic Oil

20,105 boe/day
production

1,898 locations
drilling inventory

[LEARN MORE](#)

148 mmboe
reserves

224 total
wells drilled



Alberta Deep Basin

* Tourmaline's Alberta Deep Basin operations are located in the central and northern parts of the province of Alberta, Canada. The company's operations are located in the central and northern parts of the province of Alberta, Canada.



NEBC Montney

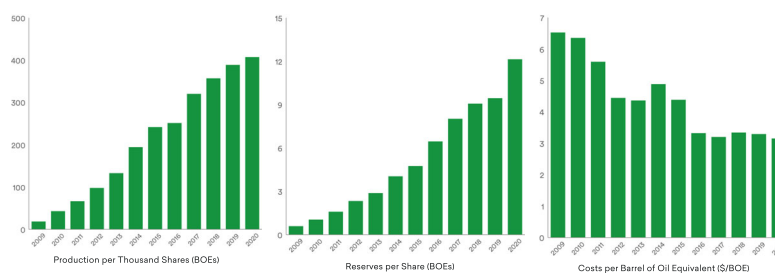
* Tourmaline's NEBC Montney operations are located in the northeast part of British Columbia, Canada. The company's operations are located in the northeast part of British Columbia, Canada.



Peace River Triassic Lake

* Tourmaline's Peace River Triassic Lake operations are located in the Peace River region of Alberta, Canada. The company's operations are located in the Peace River region of Alberta, Canada.

Tourmaline as at December 31, 2020





Operations

Alberta Deep Basin NEBC Montney Gas/Condensate Peace River Triassic Oil

Peace River Triassic Oil

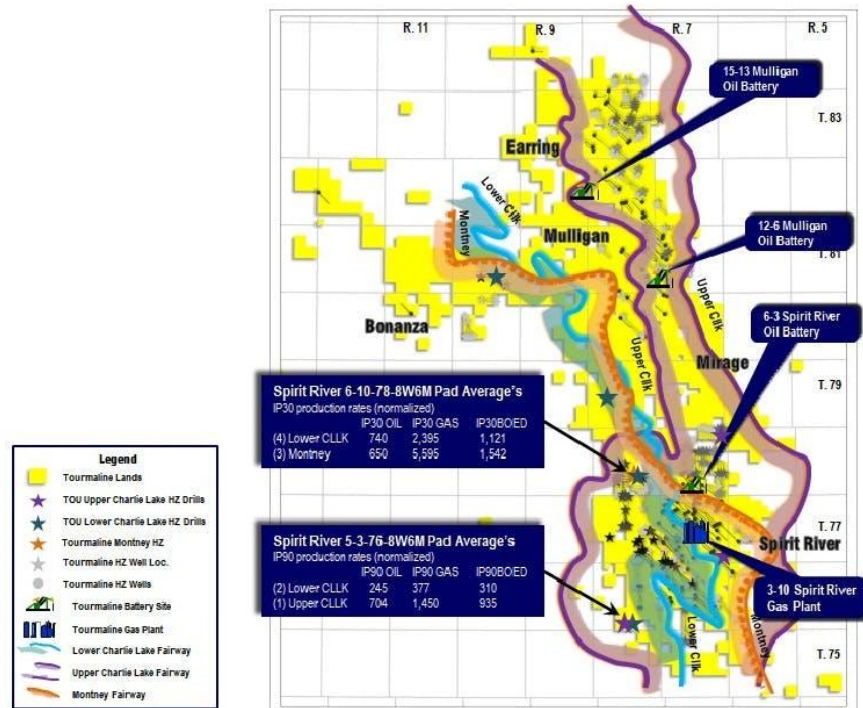
Tourmaline's third core area is the Company's exploration and production complex at Spirit River-Mulligan-Earring, Alberta. The majority of the current production in the complex is derived from oil and natural gas-charged reservoirs of the Triassic Charlie Lake formation. This area, currently producing approximately 15,000 Boe/d net to Tourmaline, has a large inventory of vertical and horizontal development drilling prospects in the Charlie Lake and Montney formations as well as attractive plays in several other formations.

The Company currently owns and operates two significant oil batteries capable of handling 48,000 bpd of fluids and the associated natural gas is delivered to a third party for processing. Tourmaline also has a 100% owned and operated 60 MMcf/d sour gas processing facility at Spirit River.

20,105 boe/day
PRODUCTION

262 mmboe
RESERVES

2,062 locations
DRILLING INVENTORY



Tourmaline is a Canadian senior oil and natural gas company focused on long-term growth through an aggressive exploration, development, production and acquisition program in the Western Canadian Sedimentary Basin.

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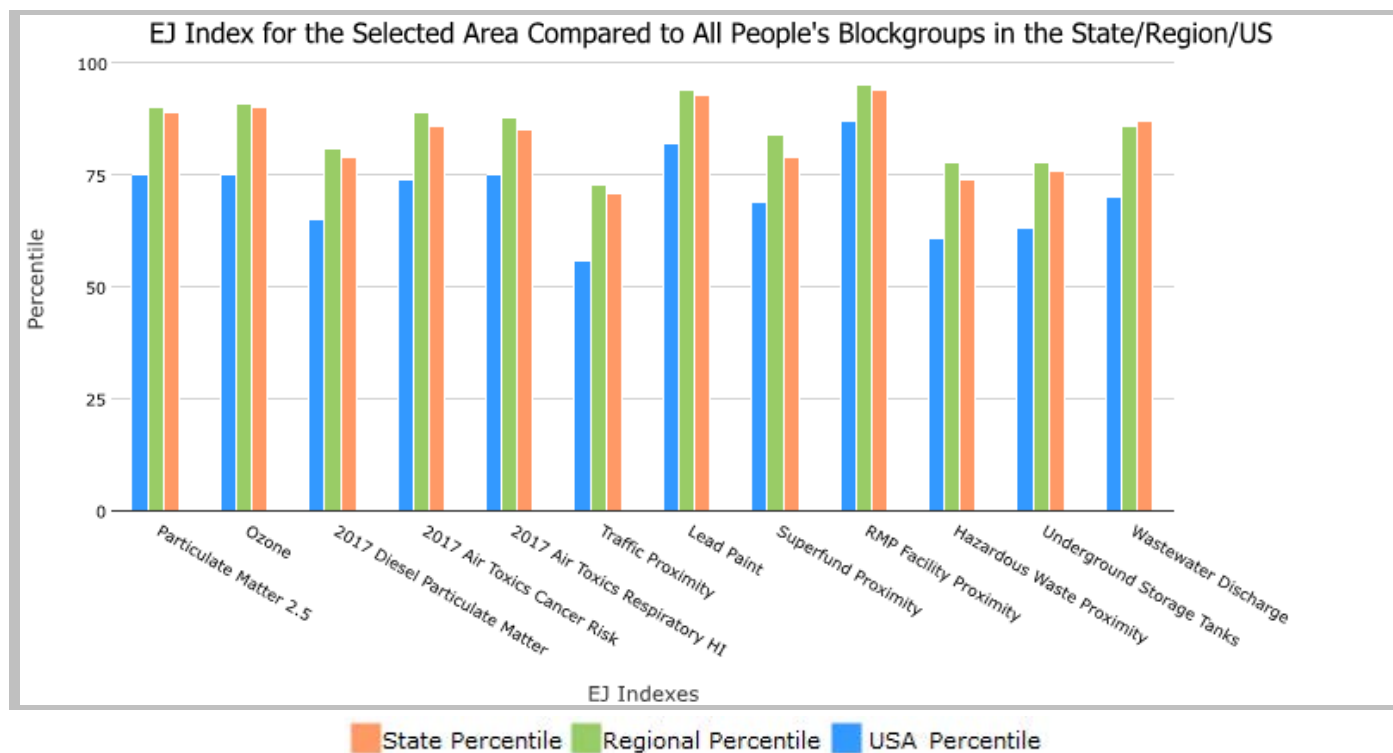
EXHIBIT G

5 miles Ring Centered at 46.535904,-118.293572, WASHINGTON, EPA Region 10

Approximate Population: 19

Input Area (sq. miles): 78.53

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
Environmental Justice Indexes			
EJ Index for Particulate Matter 2.5	89	90	75
EJ Index for Ozone	90	91	75
EJ Index for 2017 Diesel Particulate Matter*	79	81	65
EJ Index for 2017 Air Toxics Cancer Risk*	86	89	74
EJ Index for 2017 Air Toxics Respiratory HI*	85	88	75
EJ Index for Traffic Proximity	71	73	56
EJ Index for Lead Paint	93	94	82
EJ Index for Superfund Proximity	79	84	69
EJ Index for RMP Facility Proximity	94	95	87
EJ Index for Hazardous Waste Proximity	74	78	61
EJ Index for Underground Storage Tanks	76	78	63
EJ Index for Wastewater Discharge	87	86	70



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

5 miles Ring Centered at 46.535904,-118.293572, WASHINGTON, EPA Region 10

Approximate Population: 19

Input Area (sq. miles): 78.53



July 18, 2022

Project 1
EJSCREEN_Indexes
Data not available

1:9,028
0 0.07 0.15 0.3 mi
0 0.13 0.25 0.5 km
Maxar, State of Oregon, State of Oregon GEO, Esri, HERE, Garmin, GeoTechnologies, Inc.

Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EJScreen Report (Version 2.0)

5 miles Ring Centered at 46.535904,-118.293572, WASHINGTON, EPA Region 10

Approximate Population: 19

Input Area (sq. miles): 78.53

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Pollution and Sources							
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	8.71	7.86	82	8.17	68	8.74	53
Ozone (ppb)	45	35.3	97	37.2	92	42.6	75
2017 Diesel Particulate Matter* ($\mu\text{g}/\text{m}^3$)	0.0757	0.336	8	0.312	<50th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	28	35	41	33	50-60th	29	70-80th
2017 Air Toxics Respiratory HI*	0.38	0.52	27	0.47	<50th	0.36	70-80th
Traffic Proximity (daily traffic count/distance to road)	0.38	710	1	600	1	710	1
Lead Paint (% Pre-1960 Housing)	0.37	0.22	77	0.22	78	0.28	68
Superfund Proximity (site count/km distance)	0.026	0.19	14	0.13	28	0.13	23
RMP Facility Proximity (facility count/km distance)	1.6	0.65	88	0.66	88	0.75	86
Hazardous Waste Proximity (facility count/km distance)	0.035	2.2	3	1.7	9	2.2	4
Underground Storage Tanks (count/km ²)	0.0036	6.1	21	4.5	22	3.9	16
Wastewater Discharge (toxicity-weighted concentration/m distance)	5.6E-05	0.021	62	0.53	48	12	27
Socioeconomic Indicators							
Demographic Index	50%	29%	89	28%	90	36%	74
People of Color	55%	31%	84	28%	88	40%	68
Low Income	46%	26%	86	28%	84	31%	76
Unemployment Rate	6%	5%	63	5%	62	5%	62
Linguistically Isolated	16%	4%	94	3%	95	5%	90
Less Than High School Education	29%	9%	94	9%	95	12%	89
Under Age 5	7%	6%	67	6%	68	6%	68
Over Age 64	12%	15%	43	16%	40	16%	40

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

For additional information, see: www.epa.gov/environmentaljustice

EJScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

EXHIBIT H

Washington State Department of Health

Washington Tracking Network (WTN)

Welcome to WTN, a Washington State Department of Health program focused on making public health data more accessible. WTN staff keep data in all tools up to date and develop additional data based on need and availability. Data are available for download and exploration using our five tools.

You can navigate to the topic you are interested in using our [Topics List](#). Each of our topic pages has buttons to help with finding information on that topic through the appropriate tool(s).

Our [Community Reports](#) tool organizes information differently than the other four WTN tools. It presents comprehensive information about a geographic area, instead of information on a specific topic. If you are interested in what data is available for a location, rather than for a given topic, use the Community Reports tool.

Click each button to learn more about each tool, including how to use the tool and what kinds of information are presented in each tool.

Tools

 **Dashboards**

 **Data Portal**

 **Information by Location**

 **WTN On The Go**

 **Community Report**

Mission

WTN's mission is to provide health and environmental data and tools, develop partnerships, and inform data-driven policy and programmatic decisions, with the goal of improving health and health equity in Washington.

Contact Us

For information or questions related to the Washington Tracking Network, email DOH.WTN@doh.wa.gov.

Would you like to receive updates?

Receive updates and information about WTN by joining our [email newsletter](#).



National Environmental Public Health Tracking Program

WTN is supported by the Centers for Disease Control and Prevention (CDC), National Environmental Public Health Tracking. Its contents are solely the responsibility of the Department of Health and do not necessarily represent the official views of the CDC.

Department of Health

[Contact Us](#)

[Locations and Directions](#)

[Jobs - Work@Health](#)

[Public Health Connection Blog](#)

[BienestarWA Blog \(español\)](#)

[Request public records](#)

[Rule Making](#)

Partners

[Centers for Disease Control and Prevention \(CDC\)](#)

[Local Health Departments](#)

[Local Health Jurisdictions and Tribal Directories](#)

Washington State Department of Health

Information by Location (IBL)

The [IBL mapping tool](#) lets you explore and compare your community with those around you. It displays information for a variety of topics by presenting a community's rank between 1 (lowest) and 10 (highest). Each number represents 10% of the communities. For example, if your community is ranked a 7 for health disparities, it means that 60% of the communities in Washington State have a lower level of health disparity and 30% have a greater level of disparity.

 [Start Exploring](#)

Exploring IBL - Video



Information by Location Tool - Washington
Tracking Network_english

WADeptHealth

04:10 |



- [Video in Spanish](#)
- [Video in Russian](#)
- [Video in Vietnamese](#)

Information About Rankings

Why rankings?

Rankings create a common scale to compare different issues at the community level. Rankings allow us to display health information while protecting confidentiality in communities with small populations.

How did we create the rankings?

We ranked all of the topics, themes, and measures using deciles (1 decile = 10%). Each decile represents about 10% of the values in the data set. To calculate the topic ranks we averaged all the theme ranks within the index. To calculate the theme ranks we averaged all the individual measures ranks within that theme.

In January 2022, we discovered inaccuracies in some of the ranks displayed in the Information by Location (IBL) tool. The problem was due to a data processing error in the tool's platform, not from errors in the underlying data or methodology. The error was corrected on January 31st, 2022, and the affected ranks were updated to reflect the correct information. To ensure future errors like this do not occur again, we have enhanced our data checking processes.

How to interpret the rankings:

You can interpret rankings as a way to measure how communities compare across Washington.

- For example: if your community has a poverty rank of 9, that means that about 10% of the other communities have a higher proportion of their population living below the poverty level, while 80% have a lower proportion of their population living below the poverty level.

The IBL does not show the actual numeric difference between each rank. The ranks only show that there is a difference, not how much. To see the range of data used to create the ranks, you can select the graph icon next to the measure within the IBL to search WTN data. You can then export the data table and sort to see the distribution of data.

The rankings help to compare health and social factors that may contribute to disparities in a community. You should not interpret rankings as absolute values. Do not use them to diagnose a community health issue or to label a community.

Internal Links

[Environmental Health Disparities Map](#)

[Clean Energy Transformation Act – Cumulative Impact Analysis](#)

[Health Equity Program](#)

[Childhood Lead Poisoning Prevention Program](#)

[Emergency Preparedness and Response Program](#)



























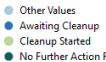




Contact Us

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Legend

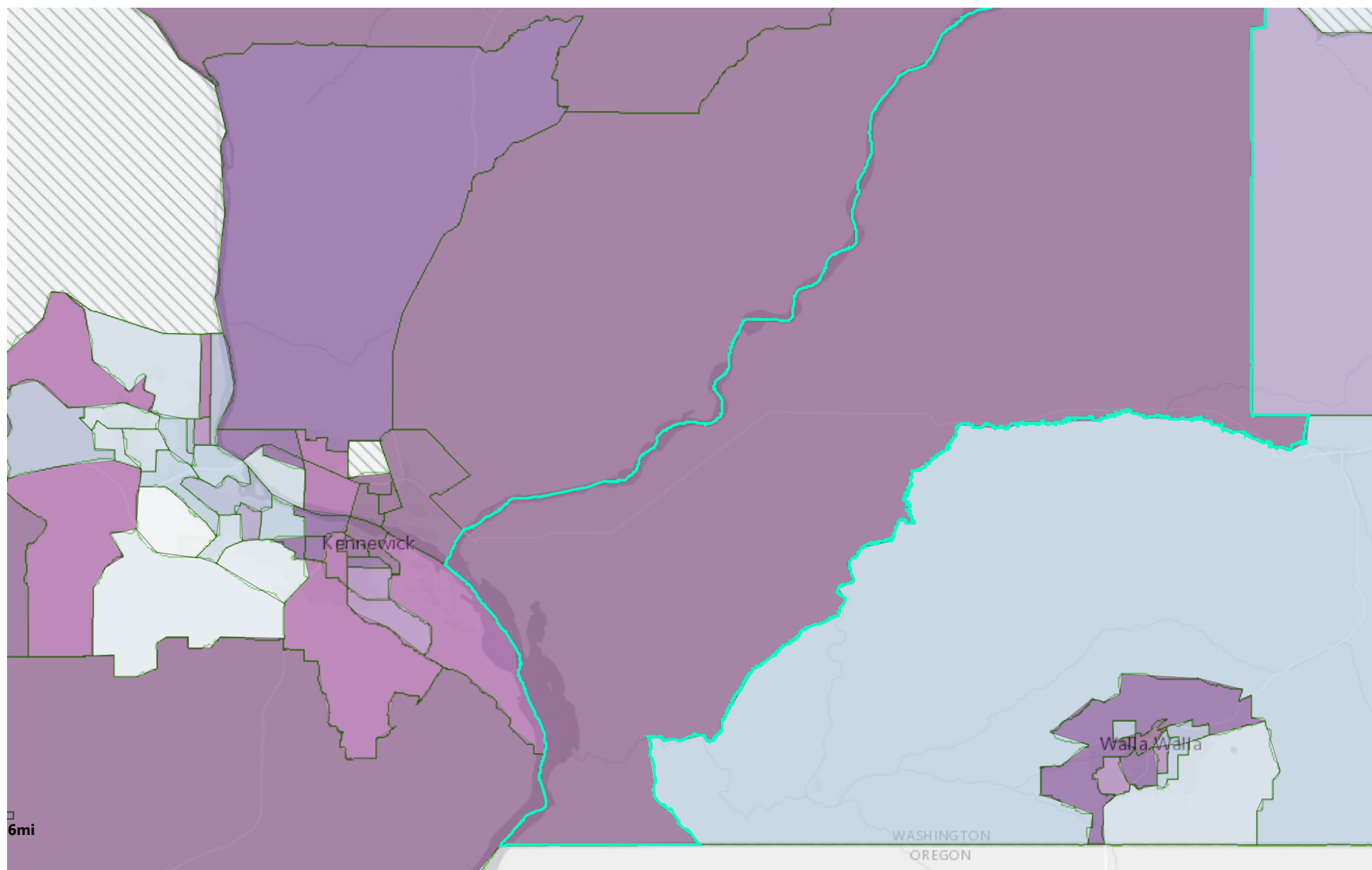
-  City Limits
-  National Flood Hazard Layer
-  Climate Projections ~2050
-  County Boundaries
-  Electric Utilities - Investor
-  Electric Utilities - Public
-  Former Orchard Lands
-  Legislative Districts
-  Opportunity Zones
-  Railroads
-  Rural/Urban Tiers2&4 CT
-  School District Boundaries
-  Arsenic Tacoma Smelter Plume
-  Tribal Land Boundary
-  Zip Codes
-  100-year Flood Zone
-  All Care Facilities - Census Tract
 -  Care Facilities - Adult Family Homes
 -  Center-Based Childcare Centers
-  Ethnic Radio Stations
-  Farmworkers Housing
-  Prisons
-  PM2.5 Pollution Exposure Zones from Traffic
-  Hazardous Waste Sites
-  Superfund National Priority List Sites
-  Toxic Release Inventory (TRI) Sites
-  WA Ecology Cleanup Sites
 -  Other Values
 -  Awaiting Cleanup
 -  Cleanup Started
 -  No Further Action Required

Selection:

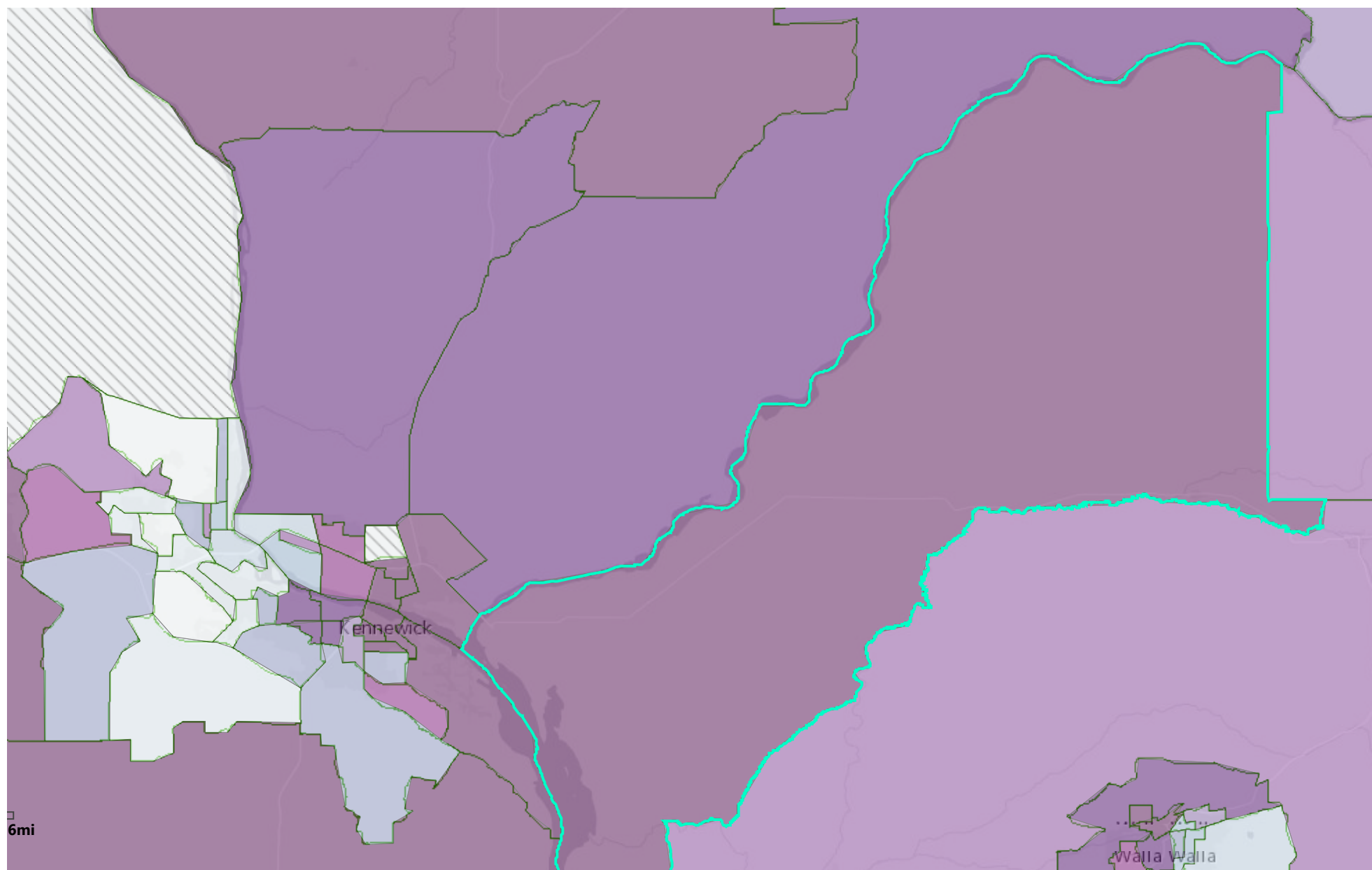
Date: 08/10/2022 at 9:31 AM

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Legend: (High) 10 9 8 7 6 5 4 3 2 1 **(Low)**

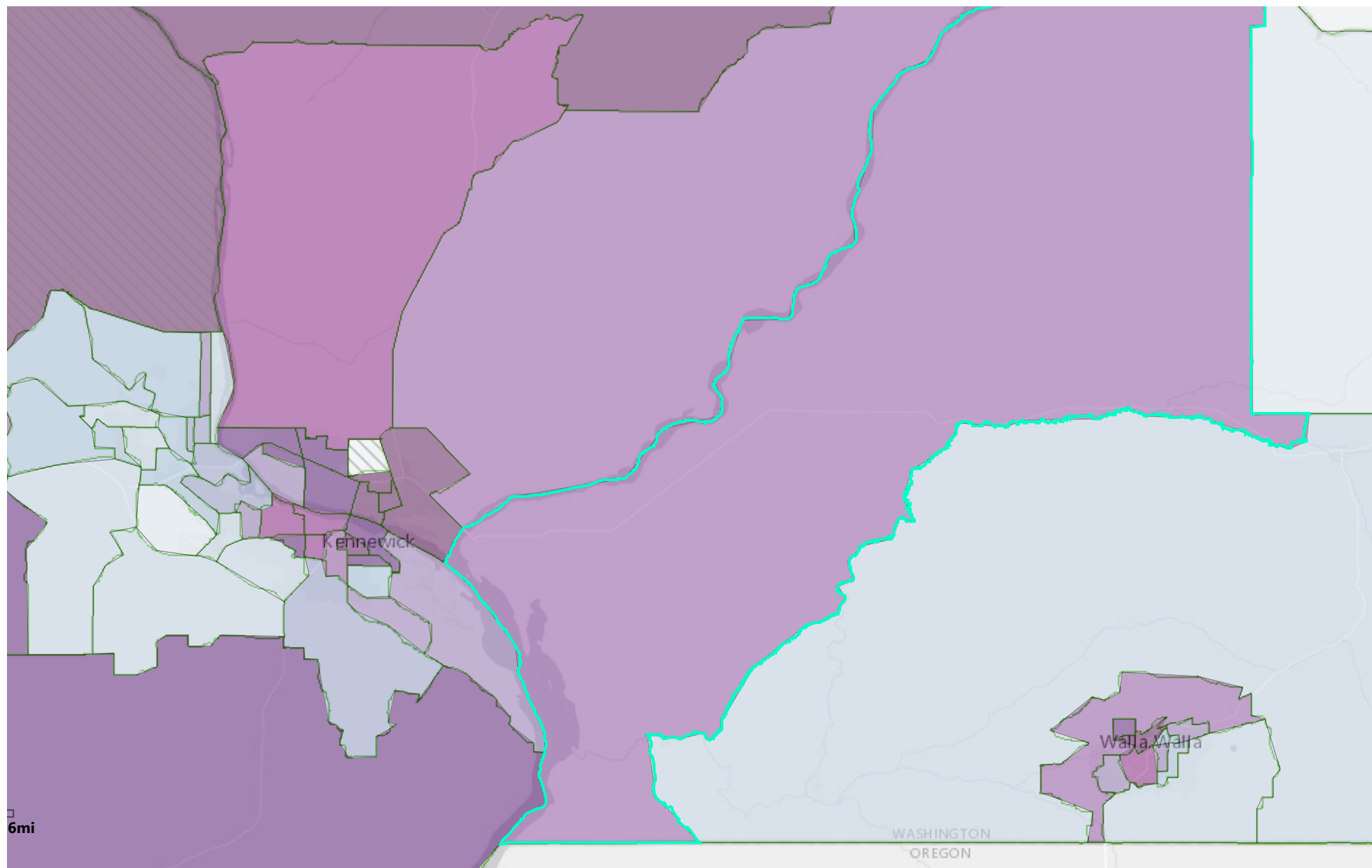


Selection:

Date: 08/10/2022 at 9:30 AM

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Legend: (High) 10 9 8 7 6 5 4 3 2 1 **(Low)**

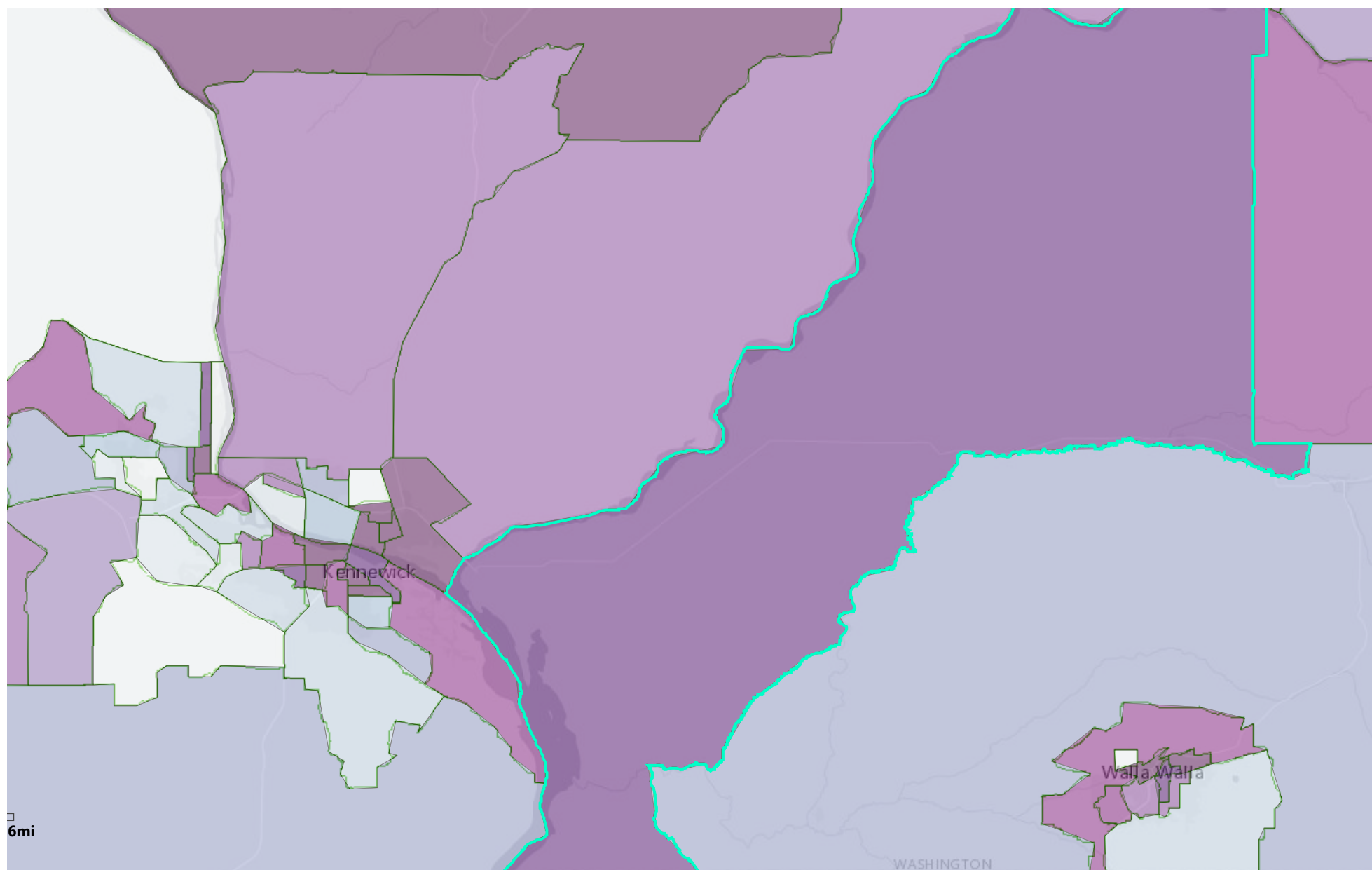


Selection:

Date: 08/10/2022 at 9:30 AM

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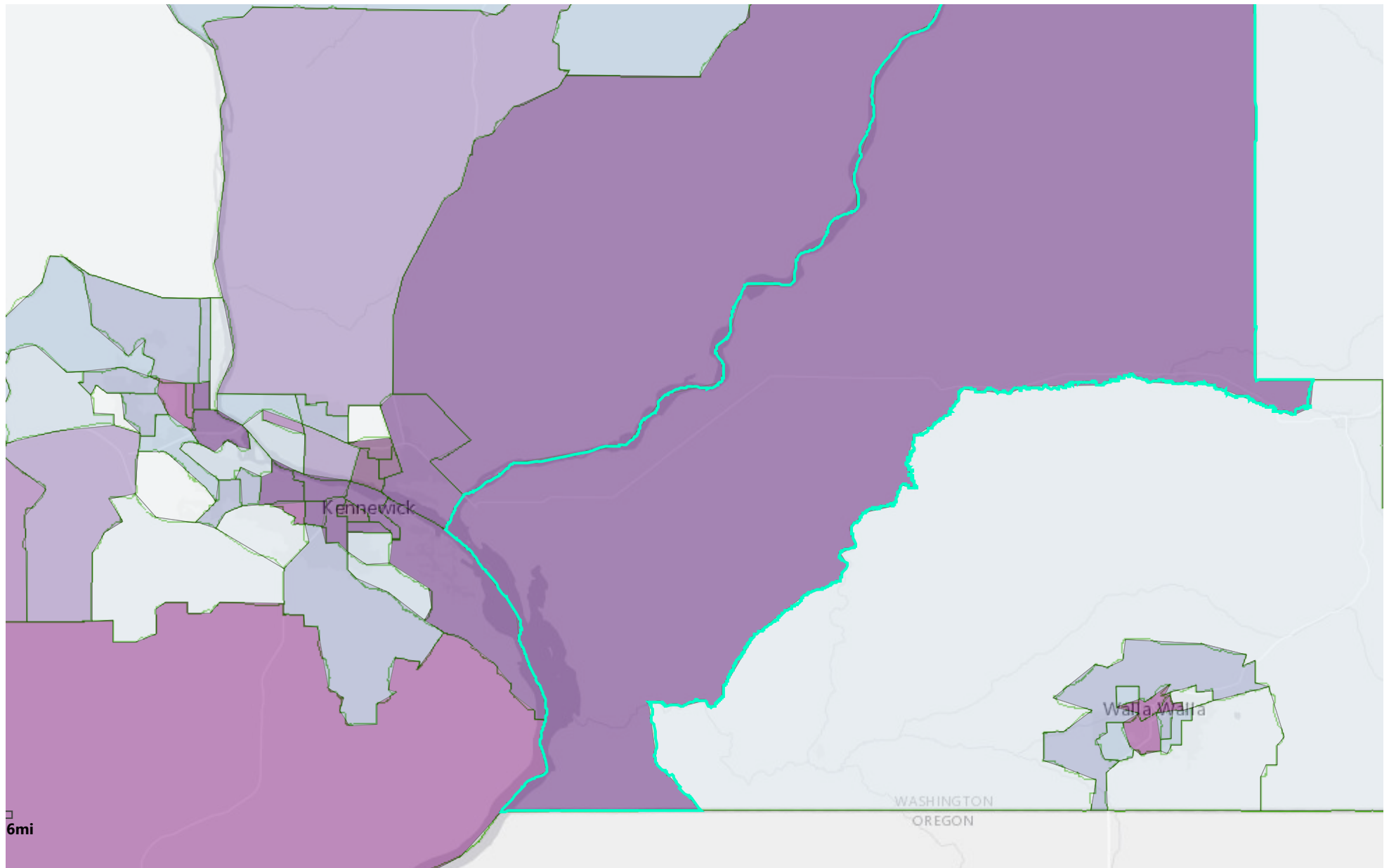
Legend: (High) 10 9 8 7 6 5 4 3 2 1 **(Low)**



Selection:

Date: 08/10/2022 at 9:32 AM

Legend: (High) 10 9 8 7 6 5 4 3 2 1 **(Low)**



Washington State Department of Health

Washington Environmental Health Disparities Map

The Washington Environmental Health Disparities Map is an interactive mapping tool that compares communities across our state for environmental health disparities.

The map shows pollution measures such as diesel emissions and ozone, as well as proximity to hazardous waste sites. In addition, it displays measures like poverty and cardiovascular disease.

The map also provides new and rigorous insights into where public investments can be prioritized to buffer environmental health impacts on Washington's communities, so that everyone can benefit from clean air, clean water, and a healthy environment.

View the Map

Environmental Health Disparities Map

Data

The map is displayed on WTN's [Information by Location \(IBL\)](#) tool. The data on the map include 19 indicators and are divided into four themes:

- *Environmental Exposures* (PM2.5-diesel emissions; ozone concentration; PM2.5 Concentration; proximity to heavy traffic roadways; toxic release from facilities (RSEI model))
- *Environmental Effects* (lead risk from housing; proximity to hazardous waste treatment, storage, and disposal facilities (TSDFs); proximity to National Priorities List sites (Superfund Sites); proximity to Risk Management Plan (RMP) facilities; wastewater discharge)
- *Sensitive Populations* (death from cardiovascular disease; low birth weight)
- *Socioeconomic Factors* (limited English; no high school diploma; poverty; race - people of color; transportation expense; unaffordable housing; unemployed)

Learn about how the Environmental Health Disparities map is being used to support Washington's [clean energy transformation](#).

Background

The map was a collaborative project that took several years to develop. It went live to the public in January of 2019.

Those involved in the collaboration include: University of Washington's Department of Environmental and Occupational Health Sciences, Front and Centered, Washington State Department of Health, Washington State Department of Ecology, and Puget Sound Clean Air Agency.

The effort included listening sessions with communities in Washington State. The communities gave input that informed development of the map.

Additional Resources

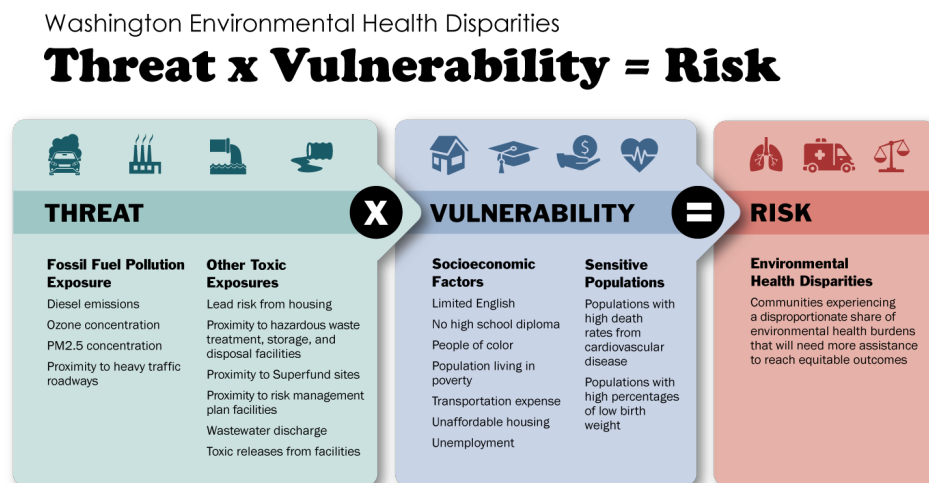
[Environmental Health Disparities Map Flyer \(PDF\)](#).

[Environmental Health Disparities Map Version 2.0 Summary \(PDF\)](#).

[Environmental Health Disparities Map Version 2.0 Technical Report \(PDF\)](#).

[Front and Centered](#)

[University of Washington's Department of Environmental and Occupational Health Sciences](#)

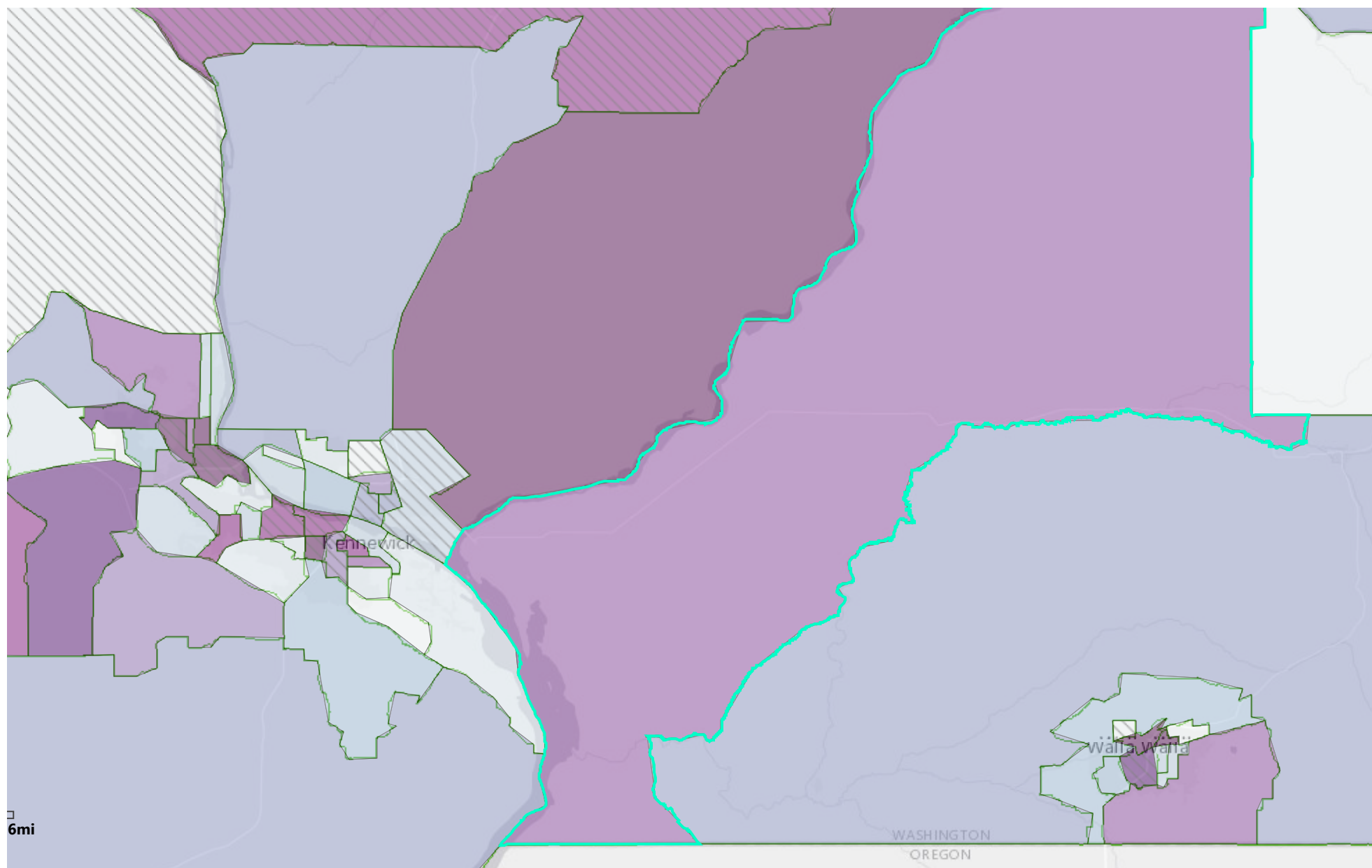


Selection:

Date: 08/10/2022 at 9:41 AM

Environmental Health Disparities V 2.0 -> Sensitive Populations -> Low Birth Weight - Combined (%)

Legend: (High) 10 9 8 7 6 5 4 3 2 1 **(Low)**





Notes

Measure 1

Low Birthweight (<2500 grams)

Low birth weight

Justification

Discuss demographics for WA such as how many lbw we have per year. Infants that weigh less than 2,500 grams (about 5.5 pounds) when they are born are classified as low birth weight (LBW). Conditions such as nutritional status, lack of prenatal care, stress, and maternal smoking are risk factors for LBW.

Low birth weight is a globally recognized marker for population health due to existing disparities because certain demographics puts infants at risk of LBW. For example, Black or Hispanic women have a higher risk of giving birth to a LBW baby, or older women have higher risk of delivering a LBW baby. There is evidence displaying environmental stressors not only impact LBW infants throughout their lifetime but also put infants at risk for LBW before birth.

Literature

Studies have found that children who had a low birth weight are at risk of developing health comorbidities, including coronary heart disease, type 2 diabetes and asthma later in life, in addition to being at risk for infant mortality (Barker et al., 2002; Lu & Halfon, 2003; McGauhey et al., 1990; Nepomnyaschy & Reichman, 2005).

Studies have shown that additional environmental factors such as exposure to air pollution, traffic pollution, lead, and pesticides are be linked to lower socioeconomic status and low birth weights (Ghosh et al., 2012; Harley et al., 2011; Laurent et al., 2013, Westergaard et al., 2017).

Data Source

The Department of Health Center for Health Statistics, Community Health Assessment Tool (CHAT), 2015 - 2019 5-year estimates.

Method

Birth and fetal death data on WTN come from the Washington State Department of Health's Center for Health Statistics (CHS), which compiles the information from birth and fetal death certificates. Formal interstate agreements assure that CHS receives the certificates from other states for WA residents. Abortions include induced abortions from abortion providers in Washington State, and through agreement, other states and Canada for Washington State residents.

This indicator depicts the number of live born singleton (one baby) infants born at term (at or above 37 completed weeks of gestation) with a birth weight of less than 2,500 grams (about 5.5 lbs), consistent with CDC National Environmental Public Health Tracking Network's Nationally Consistent Data and Measures (NCDM) definition for low birth weight.

The rate represents the count of low-birth-weight, live-born singleton infants divided by the total number of live-born singleton infants born at term to Washington state resident mothers. This indicator was developed using data collected by the Washington State DOH Center for Health Statistics from birth certificates.

This indicator does not account for individuals who were born outside of Washington that had low birth weight currently residing in Washington.

Citation

Washington Tracking Network, Washington State Department of Health. Web. "Low Birth Weight-Combined". Data obtained from the Department of Health Center for Health Statistics, Community Health Assessment Tool (CHAT). Published January 2022.

Information About the Data

EXHIBITS - 135

Birth and fetal death data on WTN come from the Washington State Department of Health's Center for Health Statistics (CHS), which

compiles the information from birth and fetal death certificates. Formal interstate agreements assure that CHS receives the certificates from other states for WA residents. Abortions include induced abortions from abortion providers in Washington State, and through agreement, other states and Canada for Washington State residents.

General fertility: The number of live births to female residents of Washington, including those residents who give birth outside of the state, generally expressed as the rate per 1000 women in the age group or per 1000 women of childbearing age (15-44).

Fetal death: Death prior to the complete expulsion or extraction from its mother of a product of human conception. Reporting of fetal deaths in Washington state is required only when the gestational period is 20 weeks or more.

Induced abortion: The purposeful interruption of pregnancy, irrespective of the duration of pregnancy, with the intention other than to produce a live born infant or to remove a dead fetus, the result of which is not a live birth. Procedures for false pregnancy, ectopic pregnancy, and missed abortion (dead ovum retained in uterus in intended pregnancy) are not included in the definition.

Pregnancies: The total number of live births, fetal deaths, and induced abortions.

Further information on collection and management of vital records data at DOH are in the [Technical Appendix](#) to the Health of Washington State report (see sections on "Birth Certificate System" and "Death Certificate System"), as well as in the CHS documents [Vital Statistics Technical Notes](#) and [Birth Quality Notes](#).

Caveats

Multiple births are not included in some of these data. These infants are not included in our prematurity and growth delay measures. They are included in the mortality measures, as well as the fertility measures. Multiple births are of concern because recent increases in LBW are due largely to preterm delivery related to increases in multiple gestation.

Abortions for 1992–1995 contain additional records that were imputed due to a failure to report by one facility. Imputation was based on straight-line interpolation for categories formed by single year of woman's age and her place of residence. For some of these counties so few additional records were added that abortion or pregnancy rates will not change.

Small differences in counts and rates may be found if WTN data are compared with Washington state data on the CDC national Tracking portal. Differences in counts are mainly due to the different methods of handling late filings and corrections described above. Differences in rates can arise from the use of slightly different population estimates: CDC uses numbers from the federal Census; WTN uses the state Office of Financial Management numbers, as described in the [Health of Washington State report Appendix B](#).

More detailed data may be available online in [Perinatal Indicators Report for Washington Residents](#) or other reports available on the agency [Maternal and Child Health Data Reports](#) webpage.



Contact Us

Contact WTN at 877-485-7316
WTN Main Page
Let us know what you think about our site!

Notices

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Alternate Format Requests

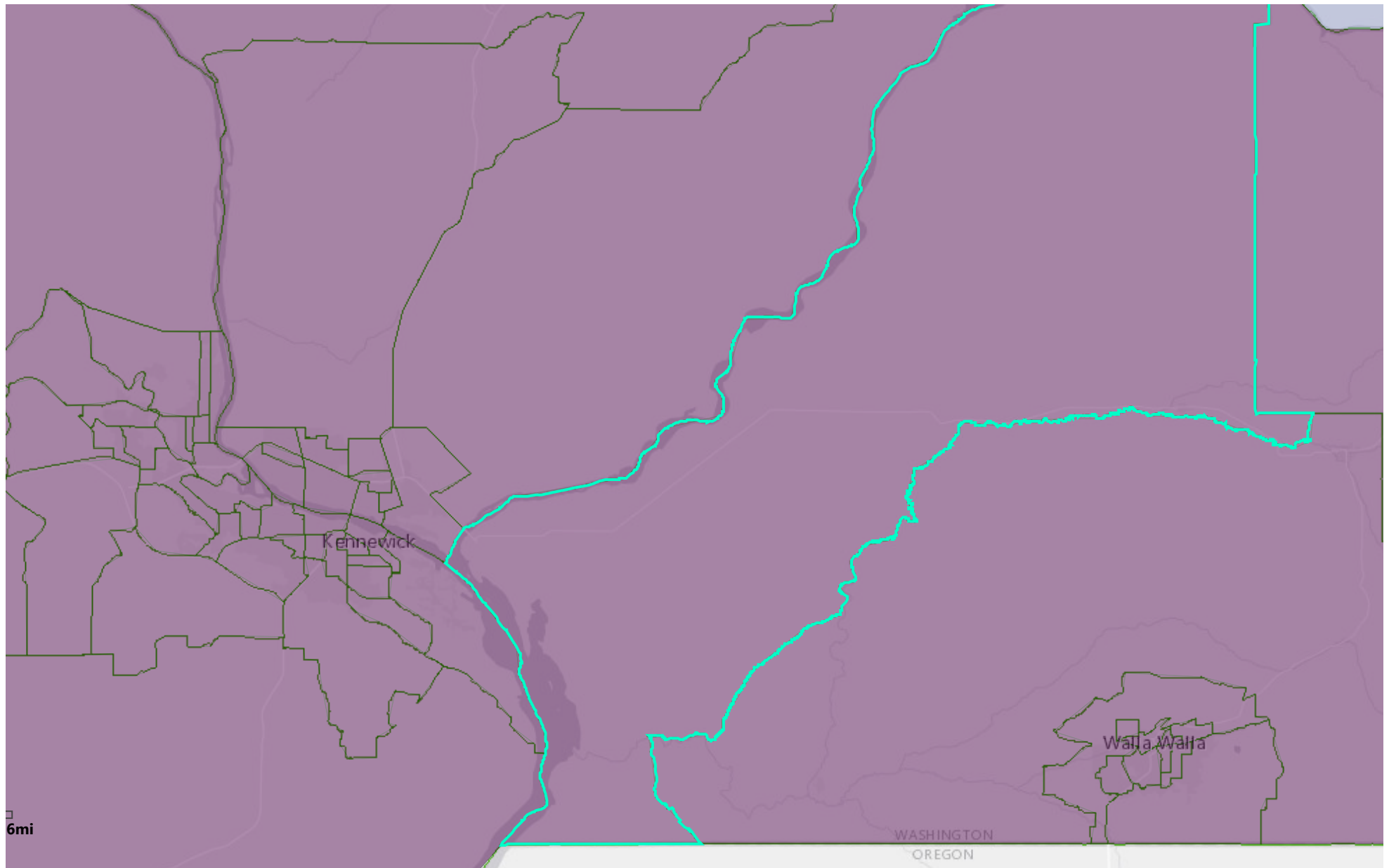
For people with disabilities, Web documents in other formats are available on request. To submit a request, please contact: Web Management Team.

Selection:

Date: 08/10/2022 at 9:46 AM

Environmental Health Disparities V 2.0 -> Environmental Exposures -> Ozone Concentration

Legend: (High) 10 9 8 7 6 5 4 3 2 1 **(Low)**

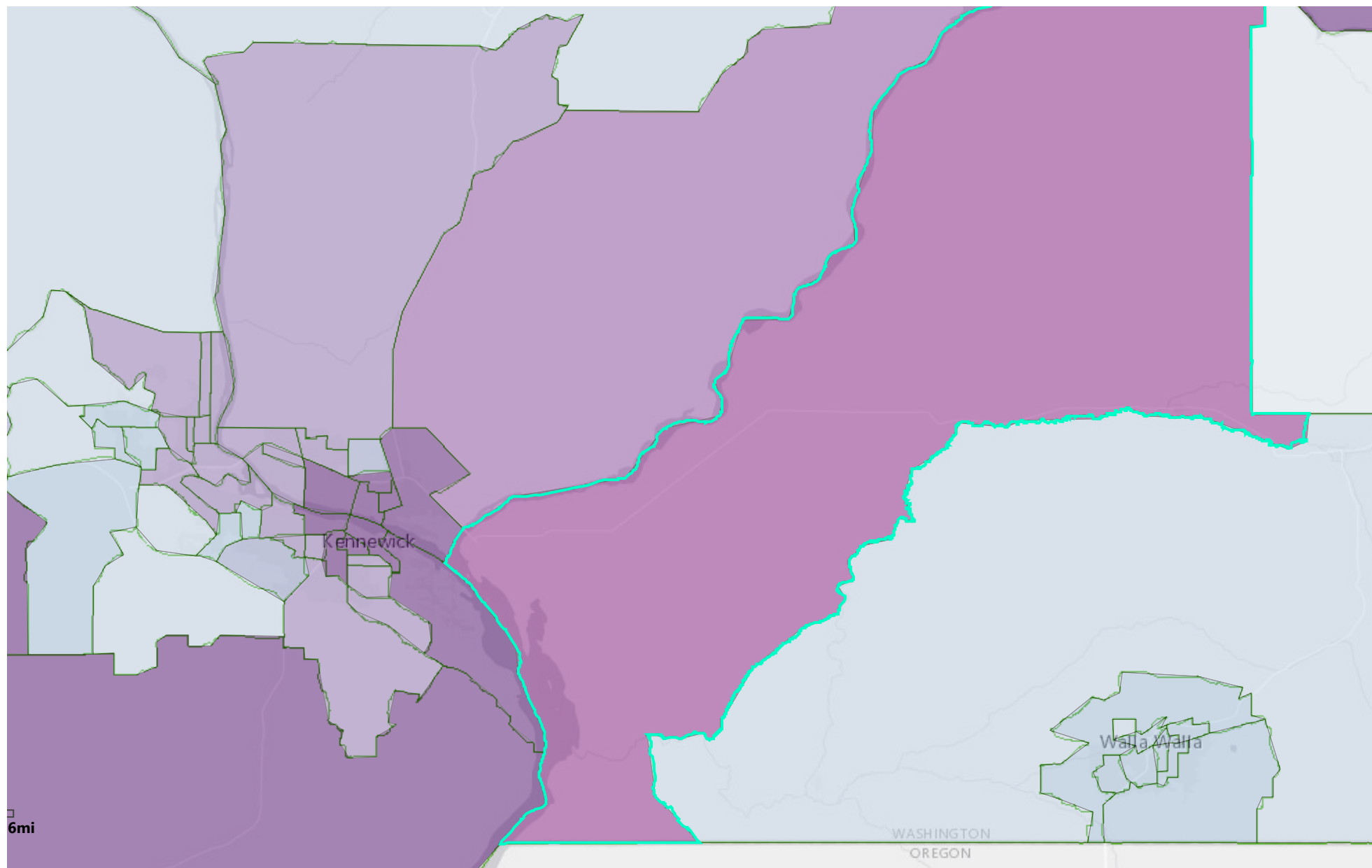


Selection:

Date: 08/10/2022 at 9:47 AM

Environmental Health Disparities V 2.0 -> Environmental Exposures -> PM2.5 Concentration

Legend: (High) 10 9 8 7 6 5 4 3 2 1 **(Low)**



Selection:

Date: 08/10/2022 at 9:48 AM

Environmental Health Disparities V 2.0 -> Environmental Exposures -> Toxic Releases from Facilities (RSEI Model)

Legend: (High) 10 9 8 7 6 5 4 3 2 1 **(Low)**

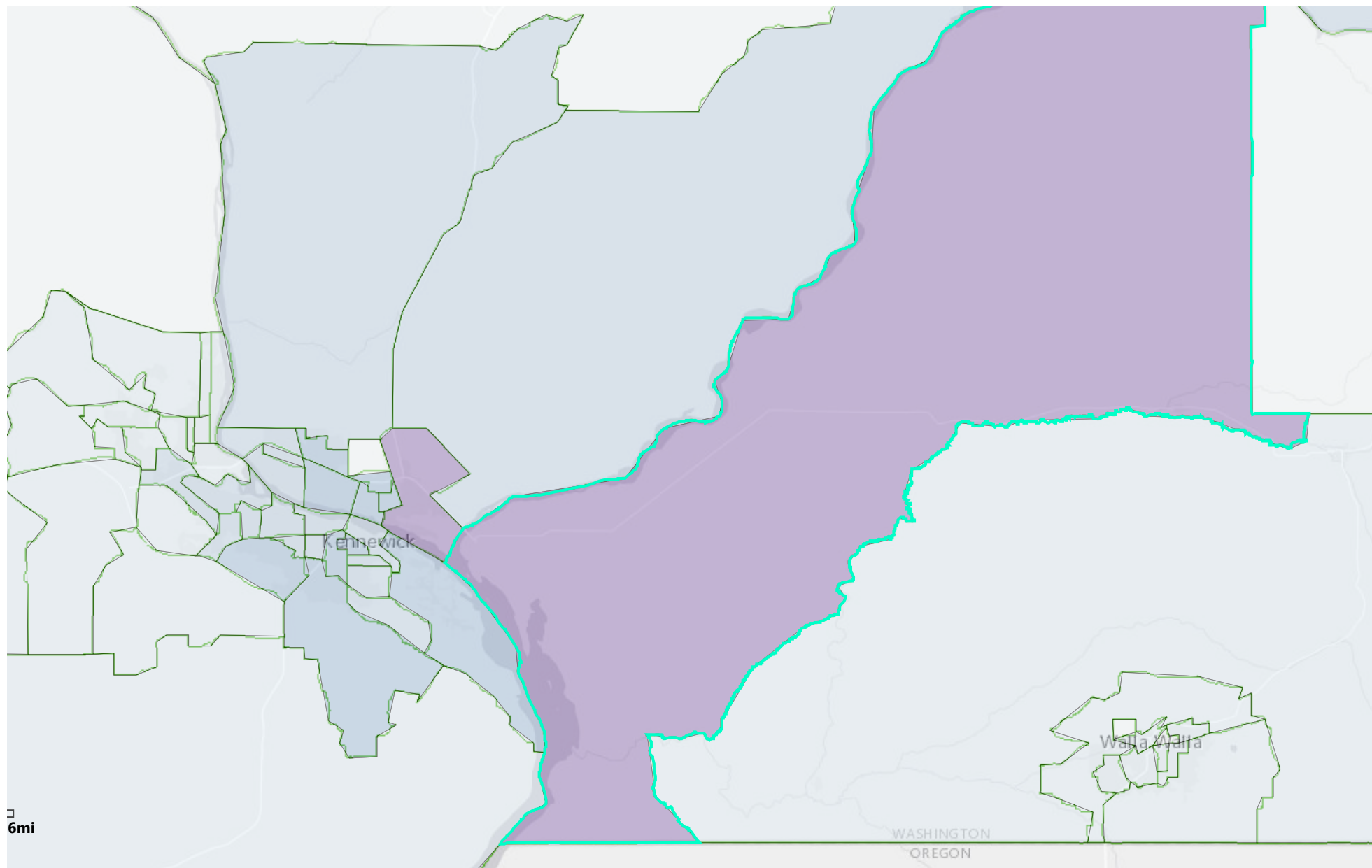


EXHIBIT I



Published in final edited form as:

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Combined burden of heat and particulate matter air quality in WA agriculture

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[#] These authors contributed equally to this work.

Abstract

Objectives: To evaluate the combined burden of heat and air quality exposure in Washington State agriculture by: 1) characterizing the spatiotemporal pattern of heat and PM_{2.5} exposures during wildfire seasons; 2) describing the potential impact of these combined exposures on agricultural worker populations; and 3) identifying data gaps for addressing this burden in rural areas.

Methods: We combined county-level data to explore data availability and estimate the burden of heat and PM_{2.5} co-exposures for Washington agricultural workers from 2010 to 2018. Quarterly agricultural worker population estimates were linked with data from a weather station network and ambient air pollution monitoring sites. A geographical information system displayed counties, air monitoring sites, agricultural crops, and images from a smoke dispersion model during recent wildfire events.

Results: We found substantial spatial and temporal variability in high heat and PM_{2.5} exposures. The largest peaks in PM_{2.5} exposures tended to occur when the heat index was around 85°F and during summers when there were wildfires. Counties with the largest agricultural populations tended to have the greatest concurrent high heat and PM_{2.5} exposures, and these exposures tended to be highest during the third quarter (July-September), when population counts were also highest. Additionally, we observed limited access to local air quality information in certain rural areas.

Conclusion: Our findings inform efforts about highest risk areas, times of year, and data availability in rural areas. Understanding the spatiotemporal pattern of exposures is consistent with the precision agriculture framework and is foundational to addressing equity in rural agricultural settings.

Keywords

Rural air pollution; heat index; wildfire smoke; agriculture; heat stress

[§]Corresponding Author:.

DISCLOSURES: None

INTRODUCTION

Agricultural workers are at risk for adverse health effects from exposure to heat and poor air quality from wildfire smoke. Agriculture is a \$10.6 billion cornerstone of the Washington economy [1] that produces more than 300 commodities on 36,000 farms covering nearly 15 million acres. Recently, these operations have employed up to 140,000 workers between June and October [2-4], which coincides with peak heat and wildfire season. In the United States (U.S.) between 2000 and 2010, 359 occupational heat-related deaths were captured in the Census of Fatal Occupational Injuries (mean fatality rate 0.22 per 1 million workers), with agriculture among industries with the highest rates [5]. Data indicate that U.S. crop workers are 20 times more likely to die from illnesses related to heat stress than U.S. civilian workers overall [6]. Although likely an underestimate due to under-reporting, the burden of non-fatal occupational heat-related illness (HRI) in Washington State (WA) agricultural and forestry workers from 1995-2009 using workers' compensation data indicated a mean July-September HRI incidence rate 15.7 per 100,000 full-time equivalent workers, with crop production workers at highest risk [7].

Evidence of the effects of wildfire smoke among agricultural workers is still emerging. Studies in other occupational settings, primarily among wildland firefighters, indicate that smoke exposure increases the risk of adverse outcomes, including respiratory and certain mental health outcomes [8]. In the general population, wildfire smoke is associated with respiratory irritation and symptoms and exacerbations of underlying asthma and chronic obstructive pulmonary disease. There is also some evidence of associations of smoke exposure with increased respiratory infections and all-cause mortality, and mixed evidence of smoke's effects on cardiovascular outcomes [9,10]. Wildfire smoke consists of primary pollutants such as particulate matter (PM), carbon monoxide (CO), oxides of nitrogen (NO_x), as well as organic compounds which can contribute to ozone and secondary organic aerosol formation [11].

Wildfire smoke and ambient heat exposures may co-exist [12]. High air temperatures increase the risk of wildfires. In WA alone, substantial wildfire activity occurred in 2014-15, and in 2018, wildfires burned more than 350,000 acres [13]. Smoke from these fires and British Columbia blanketed WA, including agriculturally intensive areas of Central WA. Results of a pilot survey of 18 primarily Spanish-speaking male and female agricultural workers in Central WA in 2019 indicated that 72% reported exposure to unhealthy amounts of wildfire smoke at work, yet the same percentage reported no change in routines or activities in response to smoke. All the surveyed workers reported they had little to no information on how to protect themselves from the smoke [14].

Several policies and campaigns intended to protect workers from heat and smoke exist. WA and California (CA) are the only US states with outdoor heat rules focused on workers [15,16]. The US Occupational Safety and Health Administration (OSHA) maintains a public service campaign that promotes water, rest, and shade [17]. Smoke exposure is addressed in CalOSHA's 'Protection from Wildfire Smoke' standard, which requires employers to take actions, including providing filtering facepiece particulate respirators that are 95% effective and not oil resistant (N95) to employees when the current air quality index (AQI) is at or

above 151 (corresponding to a $PM_{2.5}$ at or above $55.5 \mu\text{g}/\text{m}^3$) for $PM_{2.5}$ [18]. However, there is limited information about the effectiveness of N95 mask use among agricultural workers exposed to smoke and heat in field conditions. Currently, WA has no occupational smoke rules specific to exposure to $PM_{2.5}$ which is a primary health concern during wildfire events.

There has been little work to date to characterize the *combined* burden of air quality and heat in rural areas. Although epidemiologic studies have examined potential interactions between air pollution and heat exposure, few studies have looked at the relationship between heat exposure, smoke constituents and local rural dispersion [12] relevant to agricultural worker health risks. As with other environmental exposures, communities with the most social and economic disadvantage may be most exposed and may also lack the means to address exposures and health effects [19]. We sought to evaluate the combined burden of heat and particulate matter air quality exposures in WA agriculture by: 1) characterizing the spatiotemporal pattern of heat and $PM_{2.5}$ exposures; 2) describing the potential impact of these combined exposures on agricultural working populations; and 3) identifying gaps in data needed to address this burden in rural areas.

METHODS

We combined county-level data between 2010 and 2018 to estimate the potential burden of heat and $PM_{2.5}$ co-exposures for agricultural workers in WA and describe data availability. Hourly data from a network of weather stations [20] and ambient $PM_{2.5}$ data [21] were linked with quarterly agricultural worker population estimates [22]. The ambient air pollution monitoring data presented here were submitted to the US EPA by local, tribal and State monitoring networks and included both Federal Reference and Equivalence Methods (FRM/FEM) as well as non FRM/FEM. In WA State, data collected in many urban and rural locations are non FRM/FEM, and these data are considered adequate by the US EPA for inclusion in calculating the AQI but are not used for regulatory purposes. Weather stations were selected if established prior to January 1, 2010. The Haversine formula [23] was used to compute the great-circle distance between each air monitoring site ($n=77$) and the nearest weather station ($n=36$). Hourly heat index values were computed using the Rothfus equation [24]. To investigate independent and combined high exposure scenarios, we used index screening thresholds of 85°F for the heat index [25] and $35 \mu\text{g}/\text{m}^3$ for the hourly $PM_{2.5}$ [26]. A more conservative heat index screening threshold of 85°F has been recommended based on actual HRI cases [27]. For counties with more than one $PM_{2.5}$ value in each hour (i.e. more than one air monitoring station in the county), the highest value was used in order to be public health protective.

Agricultural worker population (NAICS 11 Sector Code) averages were calculated by quarter between 2010 and 2018 for all WA counties. These data were obtained from the United States Census Bureau's Quarterly Workforce Indicator estimates and downloaded by 4-digit NAICS subsector. Employment was characterized as the estimate of the total number of jobs on the first day of the reference quarter. These federal workforce estimates were checked against Washington State estimates [3]. A geographical information system was created to display counties, crop area [2] for agricultural commodities with the largest workforces, air monitoring sites, weather station sites, and smoke dispersion models.

Images from the BlueSky smoke dispersion model were used to illustrate the dynamic dispersion of a smoke plume over the course of a highly impacted period from July 27 - August 7, 2018 [28]. The rasterized daily average PM_{2.5} concentrations attributed to wildland fire from BlueSky's Modeled Pacific Northwest forecasted smoke domain on a 4-km scale was plotted in R v. 3.5.1 using the leaflet package.

RESULTS

Weather stations have a higher density than air monitoring stations in the intensive agricultural regions of central and eastern WA. It was not possible to use weather data collected at the air monitoring stations, as the relative humidity (RH) values were not consistently reported in the EPA database, which collects data from local, tribal and State monitoring networks. When matching weather and air monitoring stations, some sites were separated by more than 10 mi (16.1 km). Except for Spokane County, all these sites were west of the Cascade Mountains. The minimum, median, mean, and maximum distance between sites were 0.2, 3.1, 4.4, 22.4 miles (0.3, 5.0, 7.1, 36.2 km), respectively.

Figure 1 indicates air quality monitor coverage by county between 2010-2018 as blue dots. Also displayed are the spatial and temporal distribution of smoke, as predicted by the BlueSky dispersion model from July 29th - August 7th 2018. East of the Cascades, only 35 PM_{2.5} monitoring sites covered a land area of about 45,000 mi² (116,550 km²). This amounts to an area of about 1,286 mi² (3,330 km²) per monitor or distances that could reach beyond 36 mi (58 km), on average. We additionally observed limited or no air quality monitors in certain rural counties, some with high agricultural production.

We found substantial spatial (by county) and temporal (by month/quarter and year) variability in high heat and PM_{2.5} exposures. The largest peaks in PM_{2.5} exposures tended to occur at times and in locations where the heat index was near or above 85 °F and during summers when there were wildfires. Counties with the largest agricultural populations typically had the greatest concurrent high heat and PM_{2.5} exposures. These exposures tended to peak during the third quarter (July-September), when agricultural worker population counts were also highest. Supplement 1 presents the summary statistics for heat index and PM_{2.5} concentrations by county. There were eight counties in the State without any PM_{2.5} monitoring data. There were three counties (Garfield, Klickitat, Pend Oreille) with less than two summertime periods of PM_{2.5} data, and these were excluded from the analysis.

Annual (29,499) and seasonal (21,873 in January-March and 35,671 in July-September) estimates indicate that Yakima had the largest number of agricultural workers (Table 1), followed by Grant, Chelan, Benton, and Franklin Counties. The top commodity in terms of sales for each of these counties was tree fruit. Annual federal agricultural workforce estimates for WA were only 2-3% higher than the state's employment agency estimates, which was likely due to the exclusion of the following NAICS codes from the latter: 113 (forestry and logging), 114 (fishing, hunting, and trapping), and 1153 (support activities for forestry) [3].

Table 1 shows the number of hours of HI and PM_{2.5} exceedances over the period from 2010-2018 by quarter and county. The average number of workers employed by county over this time period is also presented. The eight counties with over 4000 agricultural workers each in the third quarter (Q3) also experienced the most concurrent heat and particle exposure periods. Yakima county, with over 35,000 Q3 workers experienced the 2nd highest instance of concurrent episodes (n = 17). There were counties with sizeable agricultural workforces (Whatcom, King and Skagit) that had substantially fewer joint occurrences. These counties are all on the West side of the Cascade mountains where heat exposures are less of a concern due to current and historically cooler weather. Figure 2 graphically represents the burden of heat and particle exposures on agricultural worker populations and demonstrates the importance of the exposures occurring in Q3.

As case examples, we plotted the time series of HI and PM_{2.5} for Okanogan and Yakima counties (Figure 3) for Q3 from 2015-2018. These were selected to represent the county with the highest worker population and the county with the highest frequency of joint exposures. This figure demonstrates the regional nature of wildfire events, year after year. However, it is also clear that the peak concentrations, peak HI and duration of the smoke events are spatially variable.

DISCUSSION

In this analysis of heat and particulate matter air quality in WA agriculture, we found substantial spatial (i.e. by county) and temporal (i.e. by month/quarter and year) variability in high heat and PM_{2.5} exposures. The largest peaks in PM_{2.5} exposures tended to occur at times and in locations where the heat index was around 85 °F and during summers when there were wildfires. Counties with the largest agricultural populations tended to have the greatest concurrent high heat and PM_{2.5} exposures. These exposures tended to be highest during the third quarter (July-September) when potentially exposed population counts -- particularly in tree fruit and crop support subsectors -- were also highest. We additionally observed limited air quality monitor data in certain rural areas. These nuanced findings can inform prioritization of prevention efforts and future research to improve access to air quality and heat exposure data in rural areas to guide decision-making.

The risks of adverse health effects from both heat and PM_{2.5} in agriculture are influenced by several factors. These factors include: work outdoors during the summer in areas prone to wildfire smoke; cardiorespiratory/metabolic demands of work; minimal control over work during smoke and heat events; and potential exposures outside of work (e.g. few opportunities for cooling or clean air outside of work). In addition to outdoor agricultural workers, other outdoor workers and indoor workers may also be at risk of adverse heat and air quality-related health effects.

The health implications of heat stress and smoke exposure among agricultural workers are substantial. Heat stress induces a physiological response in humans (heat strain) intended to maintain thermal equilibrium. Heat exposure causes occupational HRIs, including heat rash, heat cramps, heat syncope, and heat exhaustion [6]. When human thermoregulatory responses are overwhelmed, severe heat-related illness and death from heat stroke can occur.

Exertional heat stroke can occur in young, otherwise healthy workers performing heavy physical labor, including agricultural workers. Occupational heat stress is also associated with traumatic injuries [29,30] and acute kidney injury in agricultural workers [31,32] and can lead to adverse birth outcomes among heat-exposed pregnant workers [33]. Exposure to wildfire smoke is associated with respiratory irritation and symptoms and exacerbations of underlying asthma and chronic obstructive pulmonary disease [9]. Ongoing research is exploring associations of smoke exposure with respiratory infections, cardiovascular outcomes, and all-cause mortality [9]. Though health effects of short-term exposure to wildfire smoke tend to be self-limited, more work is needed to understand the health effects of longer-term cumulative exposure, interactions of wildfire smoke and agricultural burn and other pollutant exposures, and interactions of workplace exposures with home and community exposures.

The number of potentially exposed agricultural workers in this study is likely an underestimate. The QWI estimates [22] did not include foreign workers hired under the U.S. Department of Labor Temporary Agricultural Foreign Labor Certification (H-2A) Program [34]. Yet, between 2000 and 2015, the number of certified H-2A workers in Washington increased from approximately 3,000 to 12,000 [35]. This number of H-2A workers is expected to increase based on demand [36]. Our burden estimates for heat and combined exposures are based on a threshold of 85°F. However, certain workers may be at risk for adverse effects of heat below this threshold. Though OSHA identifies conditions with a heat index of <91°F as ‘lower risk’ [17], an analysis of U.S. HRIs from 2011-2016 found that among 25 outdoor HRIs, six fatalities occurred when the heat index was <91°F [27]. While the heat index takes into account only dry air temperature and humidity, heat stress is influenced by dry air temperature and internal heat generated from heavy physical work, as well as clothing, solar radiation, humidity, and wind. The risk for HRI is additionally influenced by other workplace and individual factors [6]. Workers performing heavy physical work with few breaks, double layer clothing, and personal risk factors are likely at risk for adverse heat health effects below 85°F. In our analysis, lowering this threshold by 5°F would have the effect of increasing the number of combined hours of exposure to high heat and particulate matter air quality by up to 2 times.

Heat and smoke not only have potential direct effects on agricultural worker health but may also affect well-being through effects on crops. Apples, hops, cherries, and grapes are among Washington’s top ten agricultural commodities [4]. Tree fruit can be negatively impacted through sunburn or heat stress. High levels of sunlight and heat increase tree transpiration and reduce moisture content, resulting in lower yields with smaller and poorer quality fruit [37]. Smoke-tainted beverage crops, especially wine grapes, may develop unpleasant flavors. These effects of heat and smoke on crops have a financial impact on growers, winemakers, and workers. Growers are increasingly adopting precision agriculture--which is the use of information technology, local measurements, and big data--in farm management decisions, such as when to address crop heat stress through evaporative cooling or smoke exposure through crop protection or harvest timing.

Though we were able to characterize the combined burden of heat and PM_{2.5} where data were available, we found that certain rural areas have limited access to air quality monitors

and data. One approach to addressing gaps in regulatory monitoring is to use lower-cost sensors to develop spatially dense monitoring networks. A study of a large network of low-cost air quality monitors deployed in the Imperial Valley in Southeastern California found that more than ten times as many neighborhood-level air pollution episodes were identified among a community air monitoring network compared to government monitors [38]. A higher-density network could allow growers to better measure and anticipate exposures in order to protect workers and crops. High density networks for air quality and heat could not only support the precision agriculture framework for growers but also form the foundation for better understanding and the spatiotemporal pattern of exposures, which is critical for addressing equity in rural agricultural communities. One potential solution is adding air quality monitors to the AgWeatherNet platform [20], which has about 150 sites east of the Cascades.

Social-ecological models in occupational and environmental health frame prevention opportunities at multiple levels, including individual, interpersonal, workplace, community, policy, and land-use/built environment levels [30]. More work is needed to evaluate the acceptability, practicality, and effectiveness of approaches that might simultaneously address both heat and smoke exposures in the field. Further study of how high density, low cost, real-time air quality and heat monitoring networks and prediction modeling tools, including smoke dispersion models, might support decision-making to protect agricultural community health is also needed. Evaluation of current and proposed policies, including CalOSHA's 'Protection from Wildfire Smoke' standard [18] and the proposed Farmworker Smoke Protection Act (FSPA 2019) [39], and the development of new evidence-based policies that consider joint impacts of heat and PM_{2.5} are needed to protect agricultural communities. Focus groups conducted in a California agricultural community identified ambient heat as an important barrier to N95 use [40]. The novel approach presented here provides regulators and occupational health agencies concrete tools to identify and prioritize burdens on agricultural communities by directly relating worker populations and exposure occurrences. Assessment of the implications for agricultural health of 'upstream' policies focused on forest management for wildfire prevention [13] and land use planning to enhance community cooling opportunities and climate change mitigation are also needed.

Strengths of this study include selecting protective thresholds for heat and PM_{2.5} exposures. This is particularly important since the joint impact on health outcomes is not currently well understood. However, this work did not consider other co-pollutants or potential differences in the dose-response function to wildfire smoke as opposed to other sources. The employment statistics, provided by the quarterly workforce indicators program, provide good estimates of total employment across counties, however as discussed above do not include the H-2A workforce and may severely underestimate the migrant workforce.

CONCLUSION

Smoke and heat exposures are projected to increase in the future [6,13], including in agriculturally intensive areas of Central WA. It is therefore becoming increasingly important to develop effective approaches for the prevention of adverse health effects from smoke and heat exposures, which tend to co-occur at times and in areas with the largest potentially

exposed agricultural populations. We identified a need for improved access to data in rural agricultural areas that have gaps in regulatory and state monitoring. Our findings provide spatially explicit information about the potential burden of combined heat and particulate matter air quality exposures in WA that will inform the prioritization of prevention efforts to highest risk areas and times of year. Future research is needed to improve data availability and access in rural areas. Understanding the spatiotemporal pattern of exposures is foundational to addressing equity in rural agricultural settings. Using a data-driven approach is consistent with the emerging precision agriculture framework adopted by many producers.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

ACKNOWLEDGEMENTS

Weather data provided courtesy of David Brown and Sean Hill. Copyright by Washington State University AgWeatherNet.

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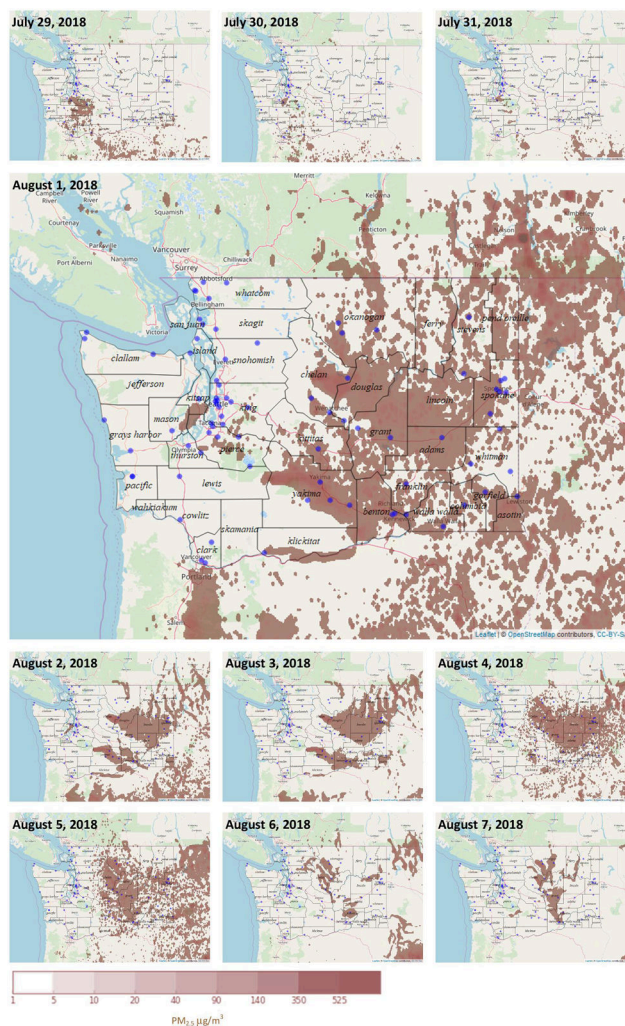


Figure 1 -
BlueSky average daily $PM_{2.5}$ images for two major wildfire episodes in 2018 across counties in the State of Washington. Blue dots represent current federal and state air monitoring sites

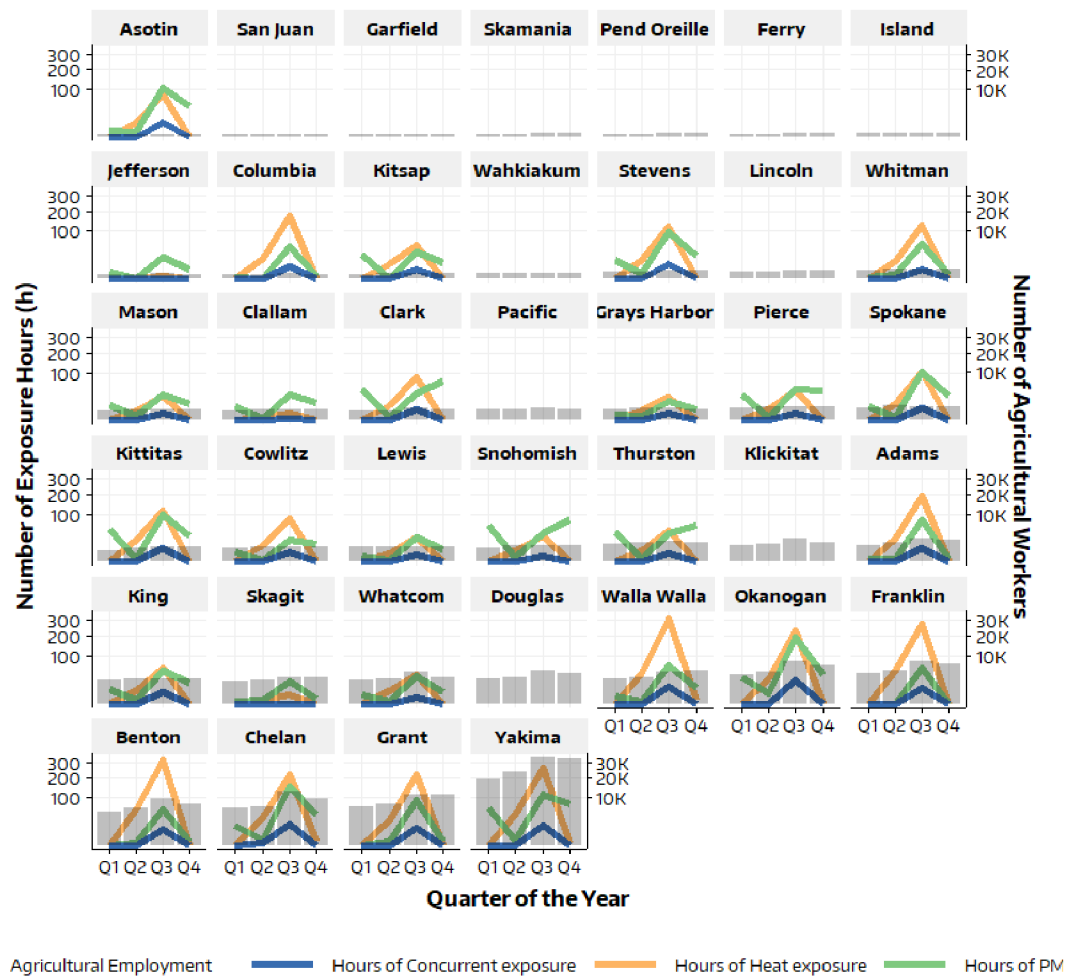


Figure 2 –.

Graphical representation of the quarterly distribution of agricultural worker population (grey shaded bar) and excess heat and PM exposures (green and orange lines). The dark blue lines represent the combined heat and smoke events. The counties with no available PM_{2.5} data are presented on the plot, but the hours of heat, PM_{2.5} and combined exposures are not displayed.

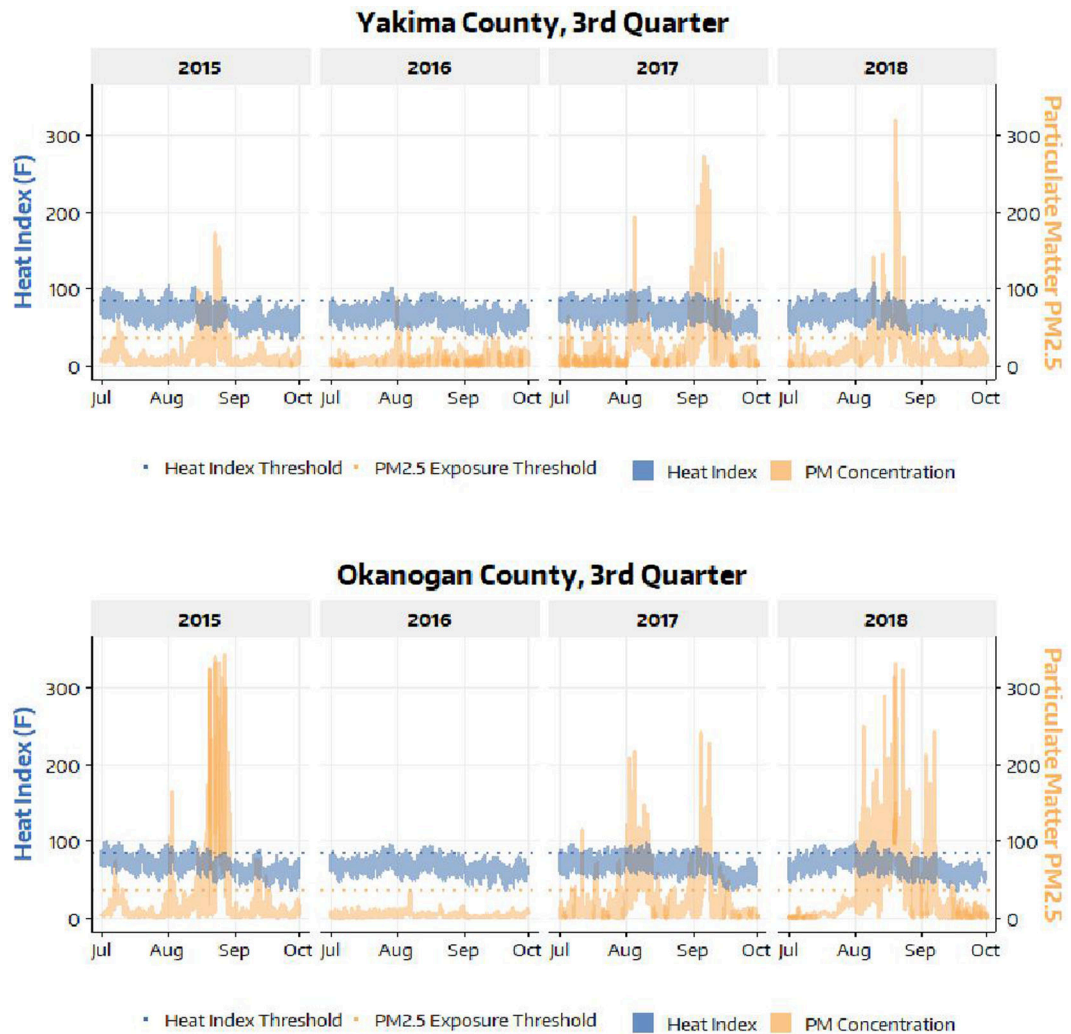


Figure 3 -

Time series of PM_{2.5} and Heat Index over Q3 of the years 2015-2018. Also displayed as dotted lines are the heat index of 85 F and the PM_{2.5} threshold of 35 µg/m³ that were used in this analysis.

Table 1 -

Quarterly summaries by Washington State county of the total agricultural worker population, the number of hours of excess heat (HI > 85F) the number of hours of excess PM_{2.5} (>35 µg/m³) as well as the total hours of concurrent heat and PM_{2.5} exposures over the years 2010-2018.

County	Quarter 1 (Jan – Mar)			Quarter 2 (Apr – Jun)			Quarter 3 (Jul – Sep)			Quarter 4 (Oct – Dec)			YEARLY				
	Workers	High heat hours	High PM _{2.5} hours	High heat & PM _{2.5} hours	Workers	High heat hours	High PM _{2.5} hours	High heat & PM _{2.5} hours	Workers	High heat hours	High PM _{2.5} hours	High heat & PM _{2.5} hours					
Yakima	19514	0	59	0	22875	0	1	0	33755	263	112	17	32560	0	73	0	29499
Grant	6245	0	0	0	7512	28	1	0	10798	215	90	13	10877	0	1	0	9113
Chelan	6077	0	17	0	6387	33	1	0	11972	219	150	20	9518	0	39	0	8881
Benton	4536	0	0	0	5803	55	0	0	9390	320	56	11	7123	0	1	0	6981
Franklin	3898	0	0	0	4852	46	0	0	7746	274	55	10	6616	0	0	0	6020
Okanogan	3488	0	28	0	4148	27	4	0	7628	231	191	23	6544	0	37	0	5398
Walla Walla	2589	0	2	0	2957	38	0	0	4465	314	64	11	4568	0	10	0	3782
Whatcom	2445	0	3	0	2812	7	0	0	4132	37	33	1	2909	0	5	0	3358
King	2270	0	9	0	2550	8	0	0	2759	54	45	5	2707	0	19	0	2659
Skagit	2068	0	0	0	2461	0	0	0	3023	4	21	0	3012	0	1	0	2653
Adams	1128	0	0	0	1688	24	0	0	2483	193	75	9	2142	0	0	0	2066
Thurston	1499	0	38	0	1592	6	1	0	1742	43	35	3	1684	0	58	0	1867
Snohomish	915	0	58	0	1121	5	1	0	1248	29	36	2	1147	0	78	0	1309
Spokane	716	0	9	0	933	12	0	0	832	105	103	7	910	0	27	0	1222
Lewis	1026	0	1	0	1102	3	0	0	1070	25	28	2	1053	0	6	0	1158
Cowlitz	918	0	4	0	1072	13	0	0	1086	80	22	4	1001	0	14	0	1106
Pierce	726	0	30	0	842	5	0	0	881	40	44	3	838	0	39	0	941
Kittitas	616	0	48	0	848	20	0	0	941	115	99	9	991	0	31	0	855
Grays Harbor	562	0	1	0	652	4	1	0	634	24	15	2	603	0	6	0	667
Clallam	477	0	8	0	508	0	0	0	550	2	28	0	529	0	13	0	630
Clark	469	0	43	0	466	10	0	0	714	81	34	6	537	0	66	0	622
Mason	476	0	11	0	489	4	1	0	529	26	28	2	509	0	12	0	559
Whitman	328	0	0	0	361	13	1	0	434	124	54	4	413	0	1	0	412
Stevens	223	0	15	0	202	15	2	0	279	120	97	10	282	0	23	0	325

County	Quarter 1 (Jan – Mar)			Quarter 2 (Apr – Jun)			Quarter 3 (Jul – Sep)			Quarter 4 (Oct – Dec)			YEARLY		
	Workers	High heat hours	High PM _{2.5} hours	High heat hours	High PM _{2.5} hours	High heat & PM _{2.5} hours	Workers	High heat hours	High PM _{2.5} hours	High heat & PM _{2.5} hours	Workers	High heat hours		High PM _{2.5} hours	
Kitsap	95	0	26	0	10	0	141	0	127	50	32	4	117	0	233
Jefferson	67	0	2	0	0	0	104	0	115	0	20	0	97	0	165
Columbia	80	0	0	0	19	0	92	176	122	176	44	6	107	0	151
Asotin	26	0	2	0	9	1	27	82	30	107	10	10	30	0	66

EXHIBIT J

2017

Mill Creek and Walla Walla County Community Wildfire Protection Plan Update



Blue Creek Fire 2015

Includes 2019 & 2021
Plan Review and Update

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Acknowledgments

Thank you to the Community Wildfire Protection Plan Steering Committee who dedicated their time and effort to every aspect of this project. This Community Wildfire Protection Plan represents the efforts and cooperation of many working together to improve preparedness for wildfire and reduce community risk factors.



CITY OF
WALLA
WALLA



FEMA



WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES



Walla Walla County
Fire District #1
Walla Walla County
Fire District #2
Walla Walla County
Fire District #3
Walla Walla County
Fire District #4

Walla Walla County
Fire District #5
Walla Walla County
Fire District #6
Walla Walla County
Fire District #7
Walla Walla County
Fire District #8

Unincorporated Communities
&
The Local Businesses and
Citizens of Walla Walla
County

To obtain copies of this plan contact:

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Walla Walla, Washington 99362
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Fax: 509-524-2910

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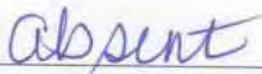
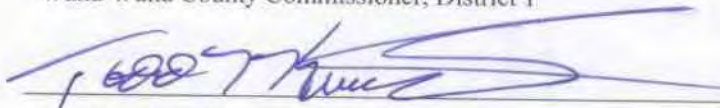

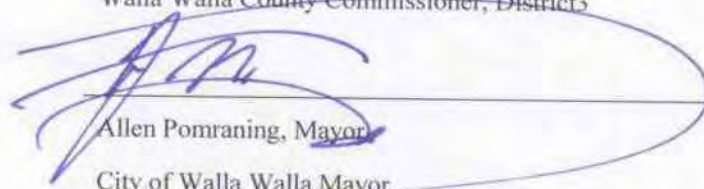
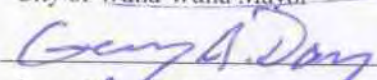
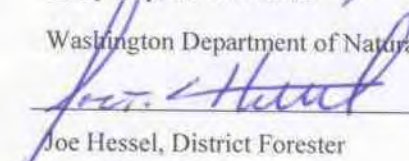
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Signature Pages

This Walla Walla County Community Wildfire Protection Plan Update has been developed in cooperation and collaboration with representatives of the following organizations and agencies.

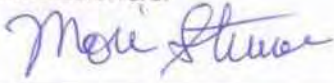
Walla Walla County Commissioners & City of Walla Walla

This Walla Walla County Community Wildfire Protection Plan has been developed in cooperation and collaboration with representatives of the following organizations and agencies.

 James K. Johnson Walla Walla County Commissioner, District 1	 Date
 Todd L. Kimball, Walla Walla County Commissioner, District 2	 9/11/17 Date
 James L. Duncan, Chairman Walla Walla County Commissioner, District 3	 9-11-2017 Date
 Allen Pomraning, Mayor City of Walla Walla Mayor	 12 July 2017 Date
 Gerry Day, State Forester Washington Department of Natural Resources	 25 Oct 2017 Date
 Joe Hessel, District Forester Oregon Department of Forestry	 11-22-17 Date

Signatures of Participation by other Walla Walla County CWPP Steering Committee Entities

This Community Wildfire Protection Plan and its components identified herein were developed in close cooperation with the participating entities listed. These members of the CWPP steering committee formally recommended that this document be adopted by the Walla Walla County Commissioners.



**Mori Struve, City of Walla Walla
Public Works Operations Manager**

12-11-2017

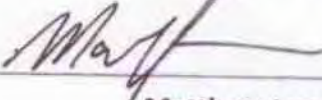
Date



**Matt Hoehna
Oregon Department of Forestry**

12/8/17

Date



**Matthew James
U.S. Forest Service**

9/20/17

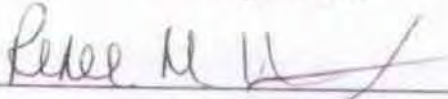
Date



**Devin Parvinen
Washington DNR**

10/10/17


Date



**Renee Hadley
Walla Walla County Conservation District**

September 18, 2017

Date



**Liz Jessee
Walla Walla County Emergency Management
Director**


Date

Signatures of Participation by Walla Walla County Fire Protection Districts and Departments

This Community Wildfire Protection Plan and all of its components identified herein were developed in close cooperation with the participating entities listed. These members of the CWPP steering committee formally recommended that this document be adopted by the Walla Walla County Commissioners.


 Brent Tompkins, Chief
 Walla Walla County F. P. D. #1
 Date 10-20-17

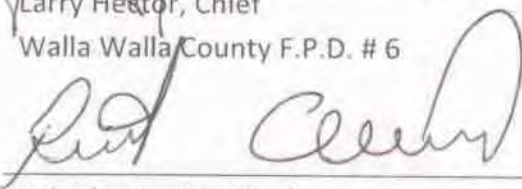

 Jim Callahan, Chief
 Walla Walla County F. P. D. #2
 Date 8-28-17


 Jim Ruffcorn, Chief
 Walla Walla County F.P.D. #3
 Walla Walla County F.P.D. #7
 Date 8-28-17


 Rocky Eastman, Chief
 Walla Walla County F.P.D. #4
 Date 8-28-17


 Michael Wickstrom, Chief
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 Date 9-28-2017


 Larry Hector, Chief
 Walla Walla County F.P.D. #6
 Date 8-28-2017


 Bob Clendaniel, Chief
 Walla Walla County F.P.D. #8
 Date 9/18/2017

CWPP Committee Members

The City of Walla Walla and Walla Walla County Emergency Management Department along with Oregon Department of Forestry (ODF) provided funding for the CWPP and were active members of the planning committee. Other entities that were involved in the planning committee included; U.S. Forest Service, Natural Resources Conservation Service, Walla Walla Fire Districts, Washington DNR, and representatives from various communities throughout the County. Monthly planning meetings were held from December of 2016 through June of 2017, with multiple community outreach projects throughout the planning process.

Wildfire Preparedness Resources

Walla Walla County

Walla Walla County Emergency Management uses and maintains, an emergency notification system (ENS) from Everbridge. The emergency notification system alerts residents about severe weather, fires, floods, toxic environmental issues, radiological events and other emergencies. Effective in 2017, WWEM has acquired IPAWS/WEA capability and is able to use the Everbridge ENS to communicate alerts and notifications over the Integrated Public Alert and Warning System (IPAWS). Messages can be sent to residents on any communication path desired – cell phone, home phone, email, text messaging, fax, pager, PDA and more – ensuring that residents receive life-saving emergency information and important public service announcements in minutes. Citizens listed in the County’s white-pages landline phone database will be automatically subscribed to emergency alerts by phone, though any citizen may also self-register their cell phone, VOIP phone, email, text message device, fax, and pager at www.wwemd.info.

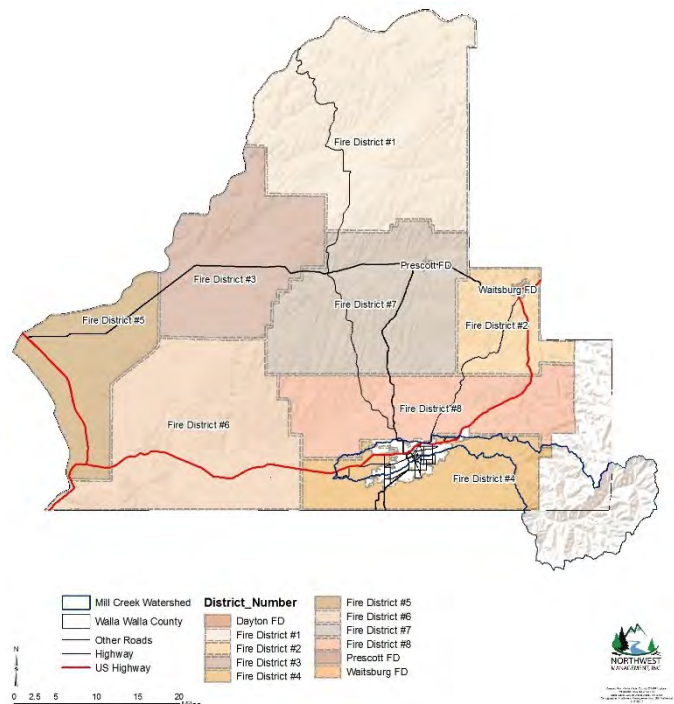


Figure 2 Walla Walla County Fire Districts (WWFD) map detailing the jurisdictional boundaries of each district. The Blue Mountains, Southeastern portion of the map, is serviced by WA DNR, and U.S. Forest Service, with a mutual aid agreement from WWFD #4 & #8.

The notification system allows Emergency Managers to notify citizens based on a geographical area designated by Emergency Management Services.

Burn control for residential burns within Walla Walla County is regulated by the Burn Control Officer. Burns greater than 3' X 3' and over 2' in height (Recreational Burns) require a permit and are subject to daily burn decisions. Agricultural burns are regulated by Washington State Department of Ecology. Requirements for Agricultural burns are: 1) Only natural vegetation can be burned in any outdoor fire, 2) someone must be monitoring the fire at all times with a water source available to control the burn, 3) fire must be extinguished immediately if it becomes a public safety hazard, nuisance or interferes with the right of a person to enjoy their property.

Mill Creek Watershed

The Mill Creek Watershed plays a vital role to the citizens of Walla Walla and surrounding communities as the main provider of drinking water. Currently Washington DNR is extending the shaded fuel break along portions of the watershed's westerly perimeter. Pre-planning of additional mitigation efforts is vital to the sustained ecosystem service that Mill Creek delivers to the residents of Walla Walla. Coordinated efforts between the Federal, State and the CWPP committee is necessary to maximize the effort and expenditures to protect the watershed. The watershed encompasses over 36 square miles and has roughly 300 residences within its borders, primarily located along Mill Creek Road. Washington DNR, US Forest Service, and Oregon Department of Forestry all share responsibility for suppression within the watershed boundary with support from local Fire Districts #4 and #8. Due to designated roadless area fuels management and suppression efforts within the watershed are difficult and expensive both in monetary and labor cost. During the risk analysis, satellite imagery identified 37 fires within the boundary of the watershed from 2000 to 2017.

The USFS employs one full time employee at the Table Rock Lookout during the fire season to ensure quick response to ignition within the watershed. Located on Forest Road 475 east of the Watershed in the Umatilla National Forest, it's unique position and elevation offer an unobstructed view into the Mill Creek Watershed. The City of Walla Walla also employs one full time employee as a Mill Creek Watershed Attendant. Funding for another seasonal worker hired through the Forest Service is provided by the City of Walla Walla. Oregon Department of Forestry has responsibility for the portion of the watershed that extends into Oregon and USFS shares responsibility on Federal lands in both Washington and Oregon. Walla Walla County Fire

Districts #4 & #8 share responsibility for fire suppression in and around the watershed boundaries within the County boundary.

Walla Walla County Fire District #1

District Summary: Fire District #1 is the largest District in the County covering 310 square miles. It currently has only 90 residents and contains large areas of CRP consisting of sage brush and natural vegetation, and very few natural fire breaks. As with most Fire Districts in the County, District #1 relies on volunteer fire personnel and has experienced difficulty in recruiting and retaining firefighters who are reliably able to respond to calls.

Being an agricultural area, there is a daily influx of seasonal workers and with this volume of traffic and resource use comes an increase in the potential for more human caused fires during the summer and fall.

District Needs: Fire District #1 needs updated trucks, more volunteers in rural areas and new or improved fire breaks in large CRP tracks of ground.

Walla Walla - Columbia County Fire District #2:

District Summary: Fire District #2 located in and around Waitsburg, Washington provides fire and EMS services to both Walla Walla County and Columbia County. This area covers over 66 square miles in Walla Walla County and is mostly rural farmlands.

Residential Growth: Most residential growth is taking place within the city limits.

Communications: Need to improve coverage of some areas of the District due to terrain dead spots.

Education and Training: At this time, the District is working with chiefs in the surrounding districts and the cities of Walla Walla and College Place to jointly train and share knowledge and experience on wildland and structural firefighting techniques.

Cooperative Agreements: Fire District #2 has mutual aid agreements with districts and municipalities in Columbia, Walla Walla, Benton, and Franklin Counties.

Chapter 6

Wildfire Risk Assessments

Introduction

Essential to the success of this plan is to improve efforts to work on a landscape-level and better employ science and technology to target areas of high priority for preventing, suppressing, and restoring fire-impacted landscapes using a risk-based approach. A landscape-scale approach to management is one that emphasizes sustainability of entire ecosystems, integrates stakeholder collaboration, and addresses the present and possible future conditions of lands across ownerships. Through application of the “All Hands, All Lands” management, increased collaboration among Federal, State, Tribal, and local officials, natural resources managers, and the fire community can improve the efficiency and effectiveness of the overall fire management effort. The increasing frequency and intensity of wildland fires and the accumulation of fuels throughout ecosystems including invasive annual grasses poses a major threat to ranchers, local communities, and others who live and work in and depend on these lands and resources to sustain their livelihoods and quality of life.

The mild climate, abundance of solar irradiance and low annual and timing of precipitation results in an environment that is potentially very prone to wildland fire. Although much of the native grasslands have been converted for agricultural purposes, there are many areas of native vegetation and fallow farm land that cures early in the summer and remains combustible until winter. If ignited, these areas burn rapidly, potentially threatening people, homes, and other valued resources.

Not every acre can be effectively treated to prevent rangeland fires throughout the lowlands in Walla Walla County, nor can every acre impacted by fire be restored. Setting priorities for prevention, suppression, and restoration is essential to increase the efficiency of operations and the efficacy of treatments. The use of risk-based, landscape-scale assessments help prioritize treatment areas to reduce fire risk as well as set priorities to strategically guide the allocation and pre-positioning of resources for fire suppression. To facilitate a mutual understanding of wildfire risks specific to commonly known areas in the County, the landscape-level wildfire risk assessments in the following sections are based on four predominant landscape types that exhibit distinct terrain and wildland fuels. The four landscapes identified from the Fire Regime

Condition Class data for the assessments are: agricultural lands, Shrub/Steppe, Dry Forest with heavy fuel loads, and Moist Forests with moderate loads. These landscapes, although intermixed in some areas, exhibit specific fire behavior, fuel types, suppression challenges, and mitigation recommendations that make them unique from a planning perspective.



Fire Behavior Factors

Weather

Weather has a direct influence on both fire starts and fire behavior, with fuel moisture changing as a factor of relative humidity, precipitation and temperature ranges. The fuel classes; 10-, 100-, and 1000-hour fuels are based on the amount of time it would take for 2/3rd of the dead fuel to regulate to the atmospheric conditions. Fuels within the 10-hour classification, such as grasses and dead leaf materials, respond to the atmospheric conditions with a 10-hour lag, and likewise 100-hour fuels have a respective time lag. Additionally, weather can contribute to fire behavior as a driver of extreme fire conditions such as wind-led active crowning events, and the distance fire brands can be cast.

Topography

The vast majority of Walla Walla County has a rolling topography that is primarily used for agriculture. Fuels (which are typically thermally thin and require little energy to drive out moisture) and weather are the driving factors for fire behavior within the agriculture and sagebrush-steppe systems, while topography plays a minor role in fire behavior. Moving into the Blue Mountains, on the other hand, topography plays a major role in fire behavior. Radiant energy from fuels burning downslope pre-conditions upslope fuels by driving out moisture, and as the fire moves forward less energy is needed for ignition increasing the rate of spread. Increased slopes not only influence fuel moisture but also make it more difficult on suppression efforts.

Fuels

Agriculture Lands

The gentle terrain and soils that dominates Walla Walla County facilitates extensive farming. Agricultural fields occasionally serve as fuel for fire after curing; burning in much the same manner as low grassy fuels. Fires in grass and rangeland fuel types tend to burn at relatively low intensities with moderate flame lengths and only short-range spotting. Common suppression techniques and resources are generally quite effective in this fuel type. Homes and other improvements can be easily protected from direct flame contact and radiant heat through adoption of precautionary measures around structures. Sagebrush-Steppe landscapes with a significant shrub component will have much higher fuel loads with greater spotting potential than grass and agricultural fuels. Although fires in agricultural and rangeland fuels may not present the same control problems as those associated

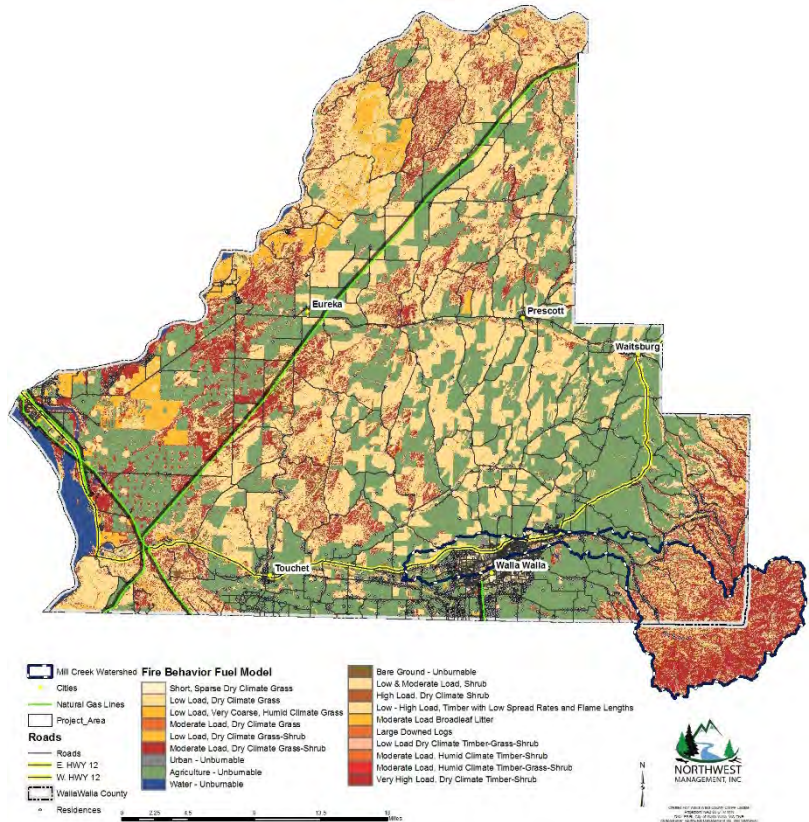


Figure 9. Fire Behavior Fuel Model for the Project Area

with large, high intensity fires in timber, they can cause significant damage if precautionary measures have not been taken prior to a fire event. Wind driven fires in these fuel types spread rapidly and can be difficult to control. During extreme drought and when pushed by high winds, fires in agricultural and rangeland fuels can exhibit extreme rates of spread, which complicates suppression efforts.

Sagebrush-Steppe/CRP Lands

The presence of invasive annual grasses has increased the fuel continuity throughout the CRP and sagebrush-steppe landscapes. Historic fires throughout the prairie landscape are difficult to determine the extent and severity, but are believed to be much more frequent and less severe than the fire regime that currently exists. Change in fire regimes is in large part due to the increased fuel continuity, but also can be attributed to the characteristics of the change in fuels. Invasive grasses green up and become desiccated much earlier than native species altering the fire seasons and modifies the plant communities to favor the invasive.

Dry Forest – Heavy Loads

Forested systems within the project area are located in the Mill Creek Watershed and along the Blue Mountains north of the watershed boundary. The exclusion of fire, for over 100 years, from the watershed and suppression of fire on Federal lands within the project boundaries has resulted in an increase in fuel loads. Dry forests (encompassing 2/3rd of the total forested acres of the project area) within the Blue Mountains historically experienced fire on a mean return interval of 20 years and experienced low to moderate severity fires that were rarely stand replacing.

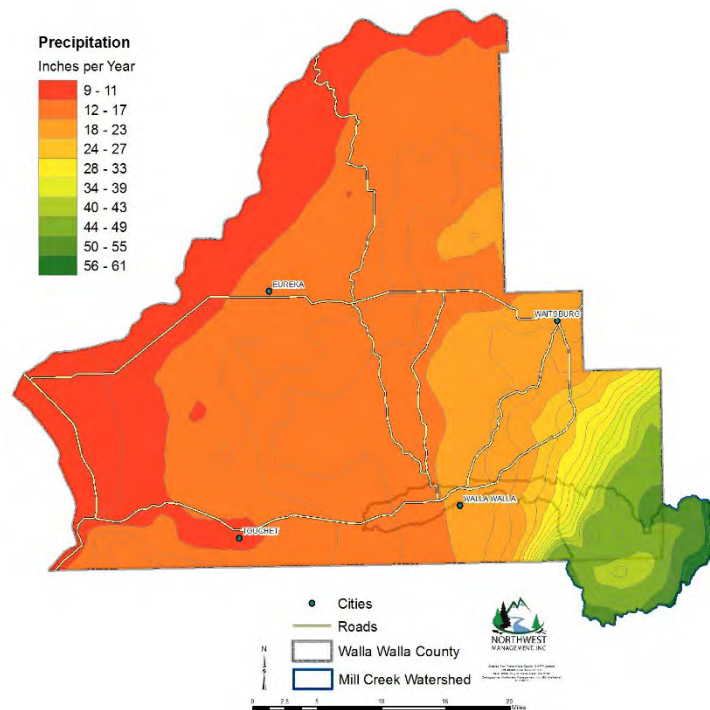


Figure 10 Walla Walla County Precipitation Data from the PRISM model

Current fuel loads and distribution has created a situation that promotes stand replacing fire, with increased ladder fuels, fuel continuity (both surface and canopy fuels), and the collection of woody debris on the forest floor. Fire behavior in the Dry Forest with increased fuel loadings can be extreme with active crown fires occurring under certain climatic conditions. Suppression of wildfires during extreme conditions is nearly impossible and exceedingly dangerous.

Moist Forest – Moderate Loads

Classification of moist forests in and around the Mill Creek Watershed resulted in an estimated 1/3rd of the total forested acres. Forest within this classification historically experienced a 40-year mean fire return interval, and experienced low to moderate severity with stand replacement occurring between every 40 to 200 years. Fire behavior is typically less extreme than fires occurring in the Dry Forest system. While passive crowning may occur, only under extreme climatic condition will active crown fires occur.

Canopy Fuels

While surface fires dominate fire activity within the project area, ladder fuels and canopy characteristics can lead to crown fires. Passive crown fires, or a single tree catching fire and burning, are common in a forested system with increased fuel loads. Active crown fires need to have, ladder, crown fuels and weather conditions that promote fire progression through the forest canopy. Canopy fuel continuity is a major driver for active crown fires, and wind can propel crown fires to become independent from the surface fires through increased flame deflection, essentially increasing fuel continuity within the crown (Van Wagner, 1977).

Wildfire Hazard Assessment

Historic Fire Occurrence

Fire locations were collected using the MODIS sensor, on the TERRA and AQUA satellites, for fire observations from 2000 through 2017. The MODIS sensors acquire 4 images a day for each location on the ground. Fires that were ignited and suppressed in between observations are not included within the fire start locations. Likewise, small fires that emit a low amount of energy, burning of ditch banks and small pile burnings, may not be seen by the satellite. The fire starts data identified a total of 37 fires located within the boundary of the Mill Creek Watershed and an additional 2885 fires throughout the rest of Walla Walla County, between the years of 2000 and 2017. The satellite cannot differentiate between agricultural fires and wildfires, so the number of wildfire starts will be much lower than the satellite estimated fire starts.

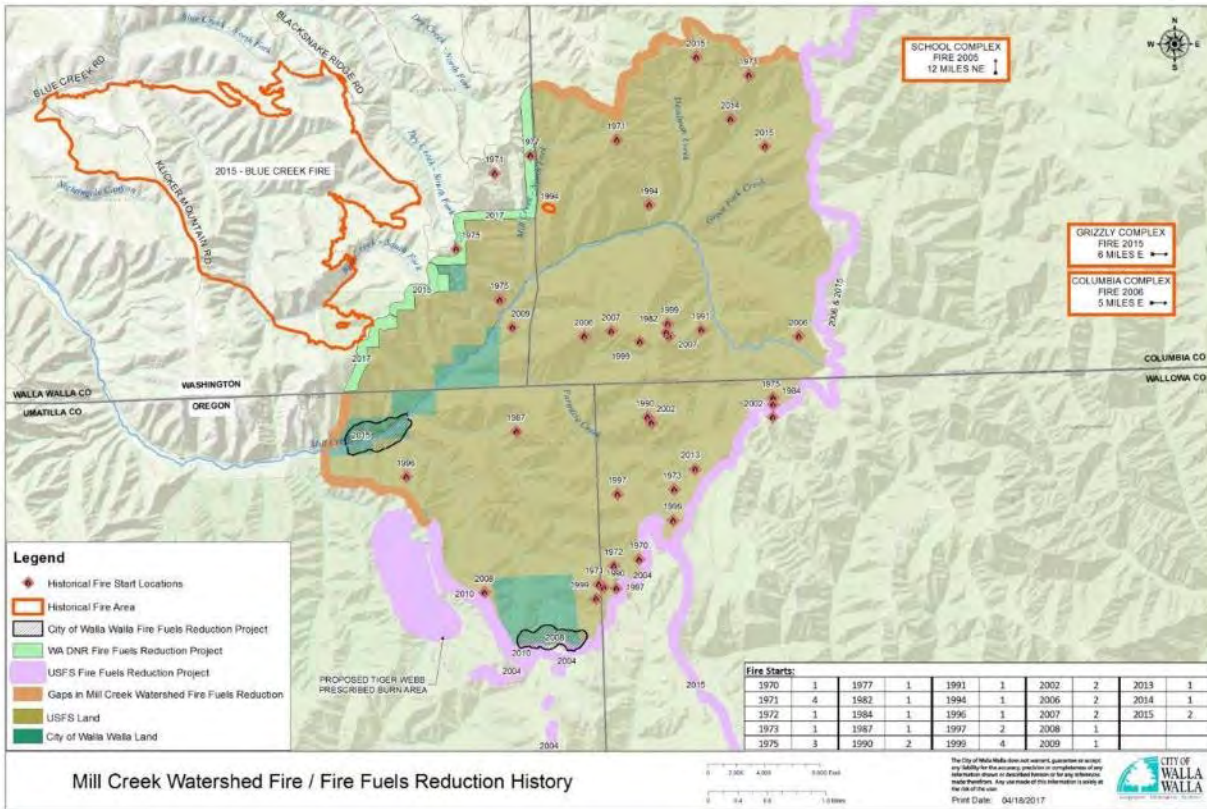


Figure 11 Fire start history for the Mill Creek Watershed from 1970 to 2015

Rate of Spread and Crown Fire Potential

There are many factors that determine both the rate of spread that the potential that a fire will become either an active or passive crown fire. Rate of spread is determined by the surface area to volume of fuels, fuel moisture content, wind speed, horizontal fuel continuity, topography, among other factors. Fire propagation models allow for the calculation of fire spread rates by incorporating all the necessary factors and typically users are allowed to adjust certain variables like wind speed and fuel moisture contents. Understanding how a fire will move across the landscape can aid in the suppression efforts and maintaining the safety of firefighters and the public. Similarly, the modeling of a surface fire progressing to a crown fire requires the inclusion of multiple factors including; vertical fuel continuity, fuel moisture content, surface fire energy output, wind speed, and more. During the analysis process using the FlamMap model, multiple variants for weather and fuel moisture levels were used to determine rates of spread and crown fire potential under multiple scenarios.

Relative Threat Level Mapping

Risk Categories

Based on analysis of the various modeling tools, existing historical information, and local knowledge, an assessment of potentially high wildfire risk areas was completed. This assessment prioritized areas that may be at higher risk due to non-native or high fire risk vegetation, fire history profile, and high-risk fuel models.

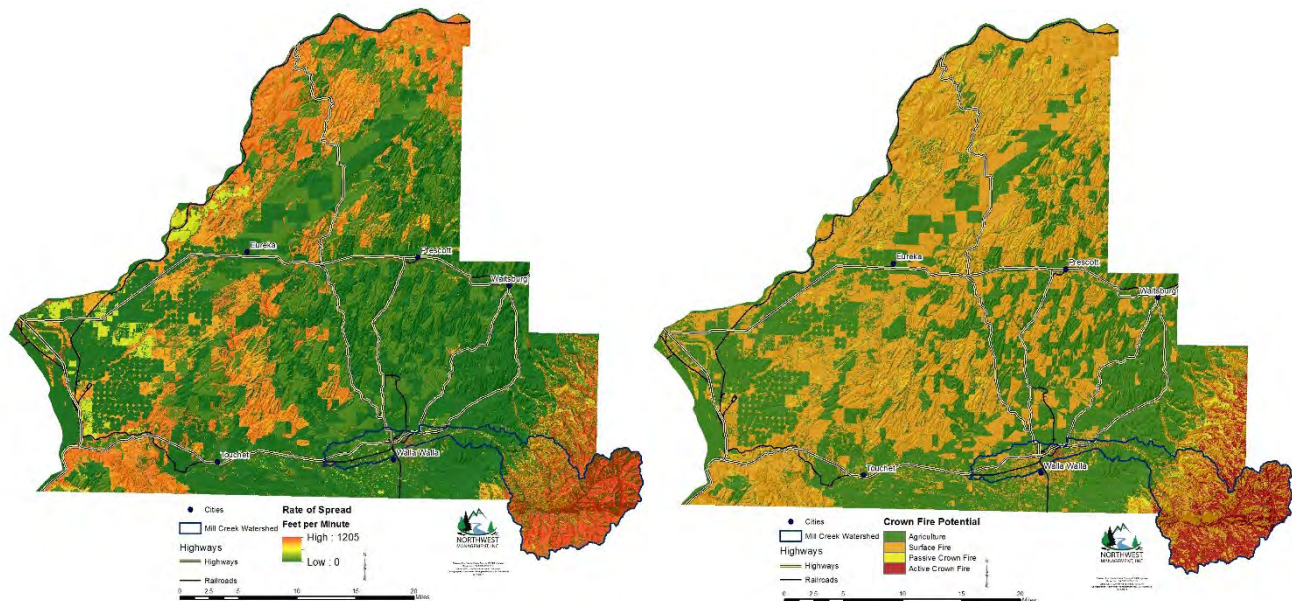


Figure 12. Rate of Spread with 30 mph winds and mid-summer average fuel moisture. Crown Fire Potential from FlamMap under 30 mph winds and mid-summer average fuel moisture contents within FlamMap.

Risk categories included in the final Relative Threat Level analysis were slope, aspect, weather and climate, fuel models, flame length, crown fire potential, and rate of spread. The various categories, or layers, were ranked based on their significance pertaining to causal factors of high wildland fire risk conditions or protection significance. The ranked layers were then analyzed in a geographical information system to produce a cumulative effects map based on the ranking. Following is a brief explanation of the various categories used in the analysis and the general ranking scheme used for each.

- **Environmental Factors** – slope, aspect and weather all can have an enormous impact on the intensity of a wildfire. Therefore, areas with steep slopes, dry aspects, or lesser amounts of precipitation, relative to Walla Walla County, were given higher threat rankings.
- **Vegetation Cover Types** – certain vegetation types are known to carry and produce more intense fires than other fuel types. For Walla Walla County, forest types (shrub understory) fuel models and shrub / grass fuel models were given the higher rankings followed by short

grass / agriculture.

- **Fire Behavior** – areas identified by fire behavior modeling from FlamMap as having high rate of spread potential or high fire intensity were given a higher threat level ranking.

Each data layer was developed, ranked, and converted to a raster format using ArcGIS 10.1. The data layers were then analyzed in ArcGIS using the Spatial Analyst extension to calculate the cumulative effects of the various threats. This process sums the ranked overlaid values

geographically to produce the final map layer. The ranked values were then color coded to show areas of highest threat (red) to lowest threat (green) relative to Walla Walla County.

Summary

Walla Walla County contains over 90% agriculture lands with scattered sagebrush steppe and CRP land intermixed throughout the prairie, the eastern edge of the County rises into the Blue Mountains with the transition from sagebrush to a conifer

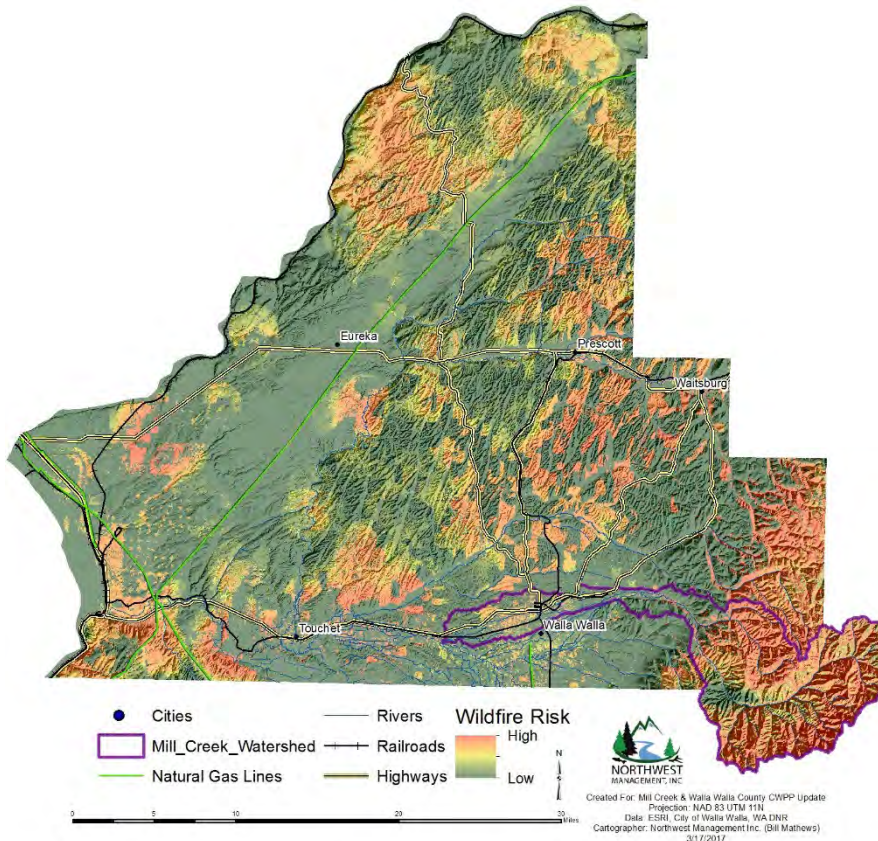


Figure 13 . Risk map for Walla Walla County and the Mill Creek Watershed. Fire threat analysis is the precursor to risk analysis and includes physical features such as slope and aspect, along with vegetative factors as in fuel loads, fuel moisture content, and weather factors, such as wind speed, relative humidity, etc. Risk assesses the when the threat of wildfire coincides with human development and important ecosystem services, for instance the Mill Creek Watershed that provides drinking water to the citizens of the City of Walla Walla.

forest system. Development in the prairie is scattered with farm houses and farming structures dispersed throughout with very low density, structures within the prairie can be long distances from EMS assistance. Development within the Blue Mountains front range is more concentrated and occurs along drainage bottoms and ridgelines, structures within these areas are typically long distances from emergency management services and have poor access. This poor access

and long travel distances requires some effort on the property owner to mitigate against wildfires.

Creating a community that is resilient to wildfires begins with identifying where the threat of wildfire may occur and mitigating against the risk of wildfires against property, life, and infrastructure. The process of mitigation, when mitigation is focused on a landscape scale, creates healthy ecosystems and more resilient communities.

A wildfire threat analysis and mapping provides firefighters and managers with an idea of where wildfire may occur under various physical and environmental conditions. The threat analysis includes fire start locations (Data from: 2000 - 2017), fuels, fuel moisture, rate of spread, flame length, crown fire potential, and historic fire locations. Risk analysis and mapping takes the threat of wildfire and assesses where the threats coincides with infrastructure, cultural and environmental resources, and residences within the wildland urban interface.

Risk analysis showed that the southwestern corner and the northern portion of Walla Walla County, with scattered areas between Eureka Flats and the City of Walla Walla, were more at risk

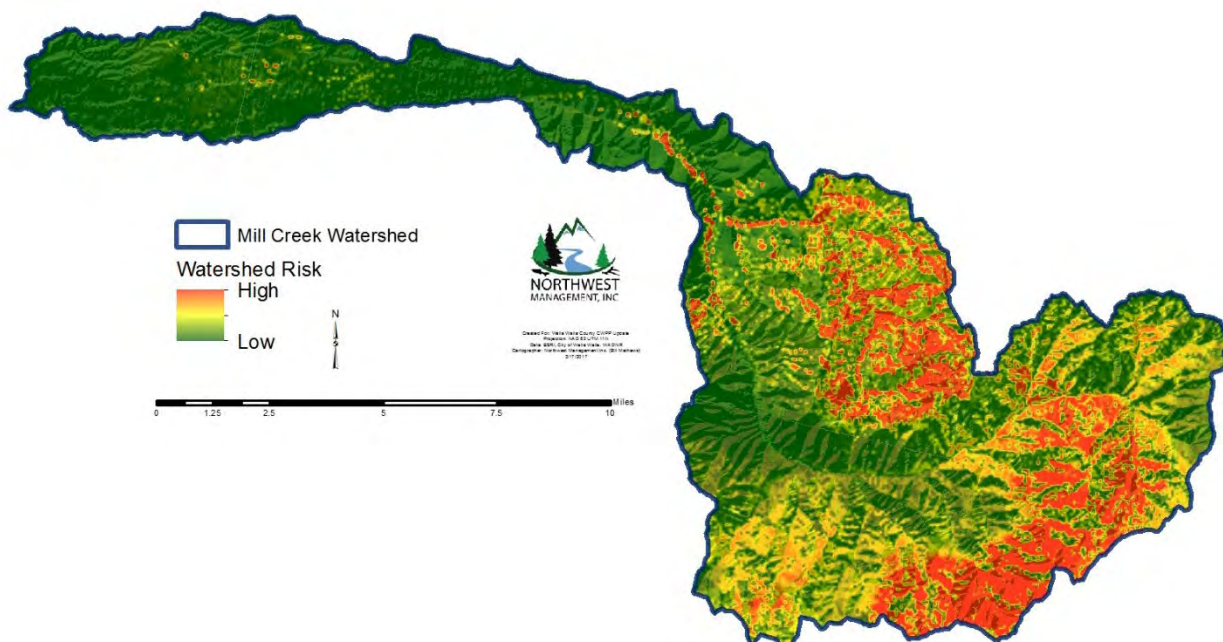


Figure 14 Mill Creek Watershed Risk Analysis, based on fuel loads, flame lengths, and crown fire potential under moderate late summer and early fall conditions.

than others across the prairie landscape. This is due to the number of fire starts, proximity to EMS, Fuels, Fire History, and locations of developed properties in these areas.

Fire suppression within the Mill Creek Watershed over the last century has led to a deviation from the historical ecosystem norms producing an accumulation of fuels. The lack of access within the watershed make mitigation and suppression efforts difficult. Mill Creek Watershed is more at risk in the timbered portions of the WUIZ, where the majority of the increased fuel loads are found, which leads to increased flame lengths and a higher potential for crown fires. The increased potential for crown fires leads to a higher probability for stand replacement/higher severity events, which in turn leads to secondary fire effects such as; erosion, alteration of site productivity, latent mortality of trees and wildlife, and the change in wildlife habitat.

Chapter 7

Community at Risk Analysis and WUI-Zone Ratings

Introduction

Fire was once an integral function within the majority of ecosystems in Washington. The seasonal cycling of fire across most landscapes was as regular as July, August and September lightning storms. Depending on the plant community composition, structure, and buildup of plant biomass, fire ignitions and fires of varying intensities and extent have been a part of this landscape. Shorter return intervals between fire events often resulted in less dramatic changes in plant composition.⁹

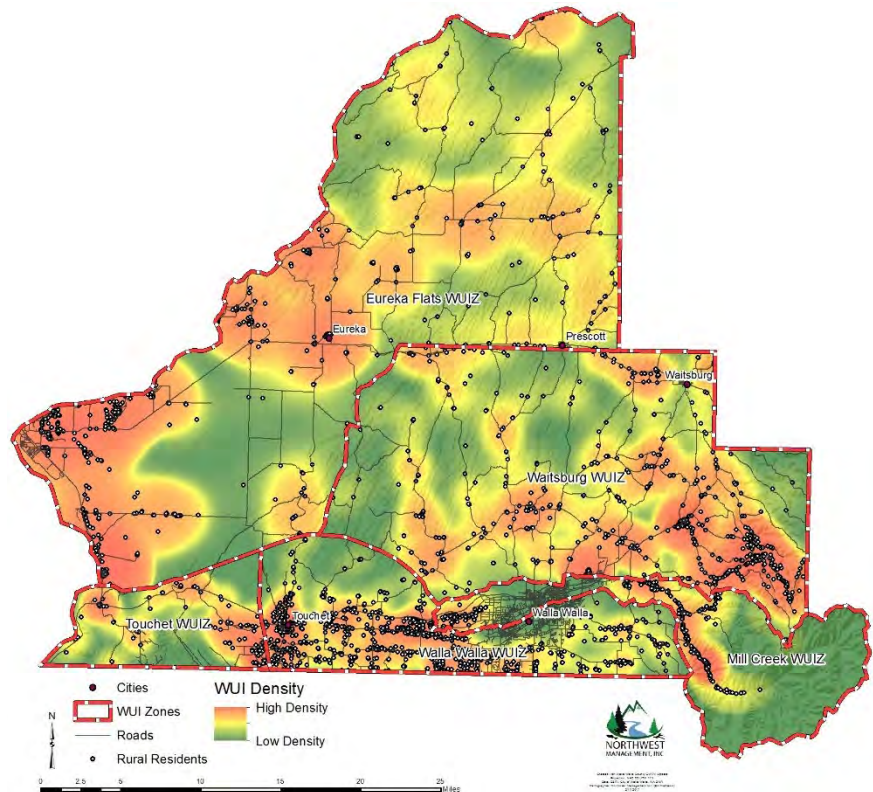


Figure 15 Wildland Urban Interface, based on each individual WUI Zone.

These fires occurred every 1 to 47 years with most at 5- to 20-year intervals.¹⁰ Infrequent return intervals mean plant communities can burn more severely and be replaced by vegetation different in composition, structure, and age.¹¹ For example, native plant communities in this

⁹ Johnson, C.G. 1998. Vegetation Response after Wildfires in National Forests of Northeastern Oregon. 128 pp.

¹⁰ Barrett, J.W. 1979. Silviculture of ponderosa pine in the Pacific Northwest: the state of our knowledge. USDA Forest Service, General Technical Report PNW-97. Pacific Northwest Forest and Range Experiment Station, Portland, OR. 106 p.

¹¹ Johnson, C.G.; Clausnitzer, R.R.; Mehringer, P.J.; Oliver, C.D. 1994. Biotic and Abiotic Processes of Eastside Ecosystems: the Effects of Management on Plant and Community Ecology, and on Stand and Landscape Vegetation Dynamics. Gen. Tech. Report PNW-GTR-322. USDA-Forest Service. PNW Research Station. Portland, Oregon. 722pp.

region have developed under the influence of fire and adaptations to fire are evident at the species, community, and ecosystem levels across the landscape.

Fire history data for Walla Walla County is largely unknown. Local knowledge suggests that Native Americans frequently used fire on the landscape which would have played an important role in shaping the vegetation throughout County. The Bureau of Land Management is currently helping to fund research targeted at identifying the fire history in central Washington through fire scars and charcoal deposits. Within this plan the detailed records of Walla Walla County fire ignitions were collected from satellite imagery and used in the threat analysis process. A total of 3,061 ignitions were recorded by satellites within the project area between 2000 and 2016. These ignitions include agricultural burns, prescribed burns, and other uses of fire as well as natural fire as the satellite has no ability to differentiate between fire-type. Recent, 1990 – current, public fire records were also used to determine the potential of a fire occurring within Walla Walla County and/or the Mill Creek Watershed. This chapter looks at the individual WUIZs, examines the risk to communities, and assesses the potential mitigation projects that would help make residences and communities more resilient to wildfire.

Mill Creek WUIZ

The Mill Creek Watershed spans 36 square miles and contains approximately 300 homes along Mill Creek and Blue Creek Roads. The successful suppression of wildfires within the boundaries of the watershed over the last 100+ years has led to

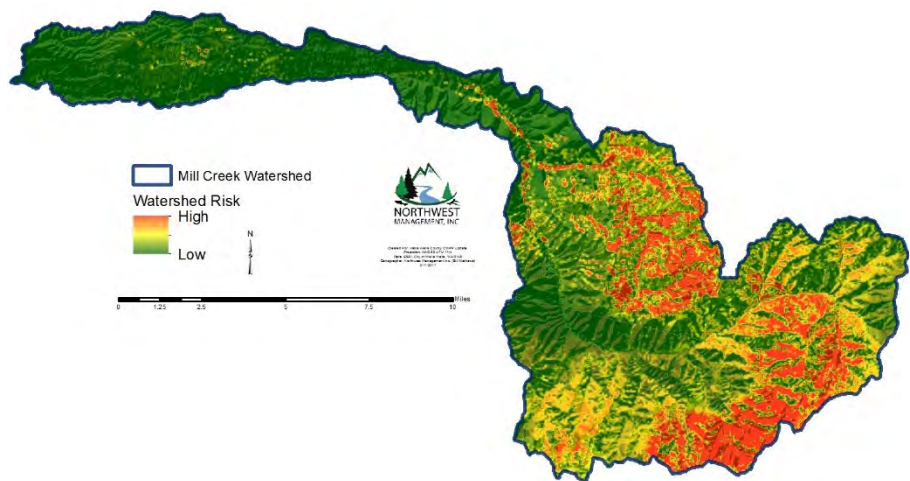


Figure 16 The risk of wild fire occurring within the watershed based on the threat analysis.

an accumulation of fuels that typically result in more intense and uncontrollable fires. Fire-start data shows that the watershed received 37 fire ignitions between 1970 and 2015. Access to the watershed is extremely limited due to the watershed's roadless area designation since 1918. Mill Creek Road extends into the lower reaches of the watershed, giving access to the City's water-intake facility.

U.S. Forest Service Roads 64 and 65 line the boundary of the upper portion of the watershed along the western, southern, and eastern edges. Table Rock lookout houses a Walla Walla City-funded U.S. Forest Service employee that monitors the watershed for ignitions during the fire season. Additionally, the watershed is patrolled by one Forest Service employee and one City employee, that is housed at the intake facility.

Fire fuel modeling efforts show over 23,000 timbered acres as having extensive and at-risk fuel load levels for what is considered a dry forested system as well as similar fuel risk levels across nearly 10,000 acres of shrub/grass ecosystem type lands. Fire behavior in both these ecosystems commonly exhibits extreme behavior of severity and spread under typical climate factors during a fire season.

Mitigation Activities

Burn Permits

The Washington DNR burn permits regulate silvicultural burning. Washington Department of Ecology (DOE) is the primary agency issuing burn permits for improved property and agricultural lands. All DOE burn permits are subject to fire restrictions in place with WA DNR and local Fire Protection Districts. Washington DNR has a general burning period referred to as “Rule Burn” wherein a written burn permit is not required in some low to moderate fire dangers. The annual period for Rule Burning is from October 16th to June 30th. Washington DNR allows debris piles for Rule Burns to be ten foot (10’) tall forest, yard, and/or garden materials. From July 1st to October 15th if Rule Burns are allowed they are limited to four foot (4’) piles.

Defensible Space

During the Columbia Complex and Grizzly Bear Complex multiple shaded fuel breaks were constructed along stretches of the upper boundary of the watershed on Forest Roads 64 and 65. Additionally, during the spring and summer of 2017 the Washington DNR has provided funding and awarded a contract for an additional shaded fuel break along the northwestern portion of the upper watershed. Cooperation between the Department of Corrections and Walla Walla County Fire Districts provided an inexpensive means for land owners to create defensible spaces around homes and structures using the Department’s work crew. At the time of this plan over 80

landowners have used the fuels reduction program to create defensible space, and the majority of these landowners are in or around the Mill Creek Watershed.

Accessibility

As a designated roadless area access to the upper portions of the Mill Creek watershed are limited to Forest Service roads 64 and 65 that run along the eastern, southern, and western borders of the watershed. Mill Creek Road extends into the watershed approximately 16 miles from the City of Walla Walla and terminates at the City's water-intake facility. Access roads and driveways are a limiting factor for firefighter response time and a potential bottle neck if evacuations were required.

Fuels Reduction and Restoration

Landscape scale restoration and fuel reduction within the watershed is largely cost prohibitive and time consuming at the current time due to the lack of roads and maintained trails within the watershed. Fuels reduction projects to date have focused on the perimeter, with a limited number of minor projects occurring within the watershed itself. These have all been in attempts to keep fires from entering the watershed from outside.

Wildfire Potential

The removal of fire from the ecosystems within the Mill Creek Watershed has led to increased fuel loads and the lack of access has made initial attacks of fire starts difficult and costly. Fire start histories show that there have been numerous fire starts within the watershed each year since 2000. The combination of attributes such as increased fuel loads, numerous fire starts, limited access, and dryer conditions does put the watershed and WUI Zone at risk for a potentially severe and forest-replacing fire that would severely impact the water supply infrastructure for the City of Walla Walla.

Fire Protection

Walla Walla County Fire Districts 4 and 8 are responsible for the structures within the Mill Creek watershed and share the responsibility for forest fires on the Washington side with the WA DNR and the Forest Service. The Oregon Department of Forestry is responsible for the watershed areas across the border in Oregon. District 4 has 10 career staff members and 65 volunteer

firefighters, officers, EMT's, First Responders, and support personnel. District 4 responds to roughly 300 fire events annually that include both structural and wildland fires. District 8 has

approximately 30 volunteer firefighters, and as a volunteer department struggles to staff fires during the fire season as the volunteers are often overcommitted.

Eureka Flat

Eureka Flat WUIZ. Eureka Flat developed from glacial outwash that created a depressional plain that acted as a depositional area for flood and eolian sediment. Typical vegetation found throughout this landscape is grass, mixed shrub and sagebrush with areas of wetlands, cultivated crops, and Conservation Reserve Program (CRP) fallow land.

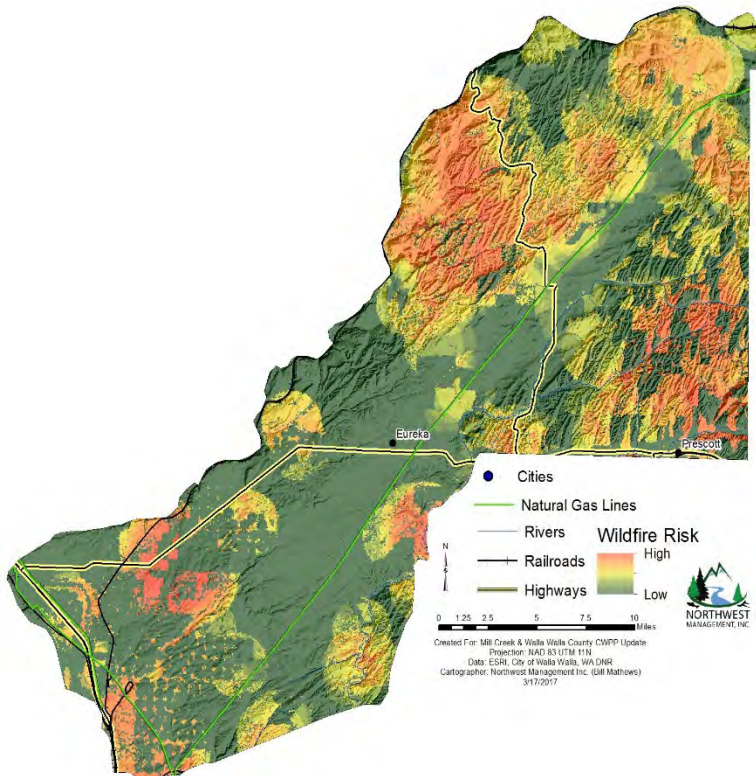


Figure 17 Eureka Flat a map of fire risk across the WUIZ

Mitigation Activities

Defensible Space

Effective mitigation strategies begin with public awareness and campaigns designed to educate homeowners of the risks associated with living in a flammable environment. Residents of Walla Walla County must be aware that home defensibility starts with the homeowner. Once a fire has started and is moving toward a structure or other valued resources, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the home and its surrounding proximity. "Living with Fire, A Guide for the Homeowner" is a nationally available set of information and an excellent tool for educating homeowners as to the steps to take in order to create an effective defensible space. Residents of Walla Walla County should be encouraged to work with local fire departments and fire management agencies within the County to complete individual home site evaluations. Home defensibility steps should be enacted based on the results of these evaluations. Beyond the

homes, forest management efforts must be considered to slow the approach of a fire that threatens a community.

Accessibility

Accessibility in the Eureka Flat WUIZ is limited with few developed road systems. Many undeveloped gravel roads spider web through and around the existing private structures and landownerships. State Highway 124 cuts across the middle of the flat before turning South and connecting with Highway 12. Lyons Ferry Road follows the Flat from its junction with Highway 124 until it connects back up with Highway 261 and Lyons Ferry State Park.

Fuels Reduction and Restoration

Outside of Burbank and Attalia, the Flat is primarily agriculture lands that border large tracts of Conservation Reserve Program (CRP) lands on either side of the Flat in the typical rolling hills of the Palouse. Much of the land north of the Flat is currently in CRP lands, which pose a significant risk for fire control as there are continuous fire fuels and no existing fire breaks. Tilling of CRP land for a fire break removes it from the program and reduces the amount of compensation a landowner receives for keeping the land out of production. This creates a disincentive for some, and poses a greater fire risk to others. Mitigation efforts such as tilling are in direct competition with revenue desired by local landowners, so there is a need to alter or modify CRP regulations to allow for fire breaks.

Wildfire Potential

North of Eureka Flat exhibits the geology of the typical rolling hills on the Palouse, the land in this area is predominantly enrolled in the CRP program. Historic fire occurrence and the fire risk analysis places the majority of the wildfire potential in the CRP land north of Eureka Flat and a mix of fire risk levels in the CRP/Farming lands south of Eureka Flat. The mixed fuels and steep, variable terrain across this landscape are very conducive to rapidly spreading wildfires. During a wildfire event, families in threatened structures would have very little time to protect their homes and evacuate. Due to the location of fire suppression services, response times would be slow compared to other areas within the County. Response may also be limited in many areas due to inadequate access roads and water supplies. Therefore, it is critical that a defensible space is established and maintained around structures prior to any ignition. Keeping a clean and green yard and using fire resistant construction materials on homes and other

structures will significantly reduce the risk of loss to fire and increase the resilience of structures to sparks.

Fire Protection

Walla Walla County Fire District 1 covers 310 square miles of the Eureka Flat WUIZ in the Northern area of the County. With only 90 residents this Fire District struggles to maintain an active volunteer base able to respond to calls. Fire District 1 encompasses large tracts of CRP land with little or no fire breaks. The agricultural aspect of the area brings in large groups of seasonal workers thereby increasing the likelihood of accidental human caused fires. Fire District 3 faces similar struggles as District 1 in that it is staffed by volunteers that are required to cover 137 square miles of land where large tracts of CRP, with very few natural fire breaks, dominate. This District also struggles to maintain a large enough volunteer base to respond to all the calls. Covering the Western tip of Walla Walla County Fire District 5 also relies on volunteers. The majority of the land in the District is active agriculture, both dryland and irrigated crops.

Walla Walla Valley

Walla Walla Valley WUIZ contains portions of the City of Walla Walla and outlying residential areas. Roughly 90% of the land in this WUIZ, outside of the urban developed areas, is active agriculture with a small percent of CRP land North of Touchet. This WUIZ landscape transitions into the foothills of the Blue Mountains in the Southeastern corner.

Mitigation Activities

Accessibility

Highway 12 cuts through the Western half of the WUIZ. Access in and around Walla Walla is well developed due to the largely urban setting. Access in the CRP land and the foothills of the Blue Mountains is more limited than the other areas within this WUIZ.

EXHIBIT K



(L)

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Also in this section

Shrubsteppe Fire Preparedness, Response, and Restoration

About WDFW

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During the 2021 legislative session, the Washington state legislature appropriated \$2.35 million from the general state fund to restore and protect shrubsteppe habitat in Eastern Washington. These operating funds are to be appropriated each biennium (two-year period). An additional \$1.5 million of capital funds to rebuild wildlife-friendly fences in prioritized areas will be available through June 2023.

The [shrubsteppe \(https://wdfw.wa.gov/shrubsteppe\)](https://wdfw.wa.gov/shrubsteppe) is an arid ecosystem found in Eastern Washington and other western states. Once covering over 10 million acres in Eastern Washington, 80% of historic shrubsteppe has been lost or degraded. In 2020 alone, 600,000 acres of this imperiled landscape burned in devastating wildfires.

The new funding will support near-term actions to benefit wildlife habitat and landowners in shrubsteppe communities affected by wildfires, including supporting recovery actions for endangered [pygmy rabbits \(https://wdfw.wa.gov/species-habitats/species/brachylagus-idahoensis\)](https://wdfw.wa.gov/species-habitats/species/brachylagus-idahoensis) and [Greater sage-grouse \(https://wdfw.wa.gov/species-habitats/species/centrocercus-urophasianus\)](https://wdfw.wa.gov/species-habitats/species/centrocercus-urophasianus) populations. Restoration efforts will be coordinated with other natural resource agencies and interested stakeholders.

Commission
(/about/commission)

**Advisory
groups and
management
boards**
(/about/advisory)

Publications
(/publications)

WDFW Lands
(/about/wdfw-
lands)

Wildlife reports
(/about/wildlife-
reports)

Rule making
(/about/regulations)

Jobs at WDFW
(/about/jobs)

Information for
employees
(/about/employee-
information)

A portion of the funding will be used by WDFW to form a collaborative group process representing diverse stakeholders and facilitated by a neutral third-party to develop a long-term strategy for shrubsteppe conservation and fire preparedness, response, and restoration to meet the needs of the state's shrubsteppe wildlife and human communities.

Steering committee

The Washington Department of Fish and Wildlife (WDFW) partnered with the Washington Department of Natural Resources and Washington State Conservation Commission to form a steering committee that will meet regularly and make decisions on how to best use state funds with input from two advisory groups and associated technical teams.

Advisory groups

Two advisory groups will provide input to the steering committee:

- Near-term Action Advisory Group
- Strategy Development Advisory Group

Near-term action technical teams

- Wildlife species recovery
- Technical tools supporting restoration delivery
- Deferred grazing
- Native plant material production
- Wildlife-friendly fencing
- Cultural resources review capacity

At the Washington Department of Fish and Wildlife, we celebrate diverse individuals who bring a wide range of perspectives. All are welcome to participate in our processes regardless of race, color, sex, age, national origin, religion, sexual orientation, gender identity and/or expression, status as a veteran, and basis of disability.

Contacts and member info



Members



Guidelines

- [WDFW Advisory Group Handbook](#)
([/sites/default/files/about/advisory/WDFW_advisory_group_handbook.p](#)

Contacts

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[360-902-8403](tel:360-902-8403) (<tel:360-902-8403>).



Meeting calendar

About

Top tasks

Log in to the WILD licensing website
(<https://fishhunt.dfw.wa.gov/#/login>)

Get razor clam information
([/fishing/shellfishing-regulations/razor-clams](#))

Event Calendar ([/get-involved/calendar](#))

Report a violation
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EXHIBIT L



REPORT ON SUBSTITUTE HOUSE BILL 2561

**Recommended solutions
to three of Washington's most
critical wildfire questions from
the Wildland Fire Advisory
Committee**



**NATURAL
RESOURCES**

HILARY S. FRANZ
COMMISSIONER OF PUBLIC LANDS

PAGE
6

How do we best protect our currently unprotected land?

The legislature directed the Committee to approximately quantify the amount of unprotected land (i.e., land outside of an established fire district or jurisdiction and/or without a planned fire response) within Washington and make recommendations on how best to provide protection. The Committee, with the assistance of Washington State Department of Natural Resources (DNR) staff, identified approximately 358,000 acres of unprotected land in the state. The Committee recommends DNR assume protection of this land. Further, the Committee recommends protection be funded through an assessment similar to Forest Fire Protection Assessment (FFPA) and with supplemental funds allocated from the state general fund.

PAGE
24

How can community programs better help homeowners engage in mitigation efforts?

The legislature directed the Committee to examine the value of community programs which educate homeowners and engage in preventative projects. To address this task, the Committee reviewed the 10-year Wildland Fire Protection Strategic Plan (Wildfire Strategic Plan). In doing so, the Committee identified two strategies of the Wildfire Strategic Plan as priorities for community programs; the Committee recommendations focus on those strategies and set funding criteria for how community programs should be advanced.

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36

What is necessary to better protect non-English speaking residents during wildfire emergencies?

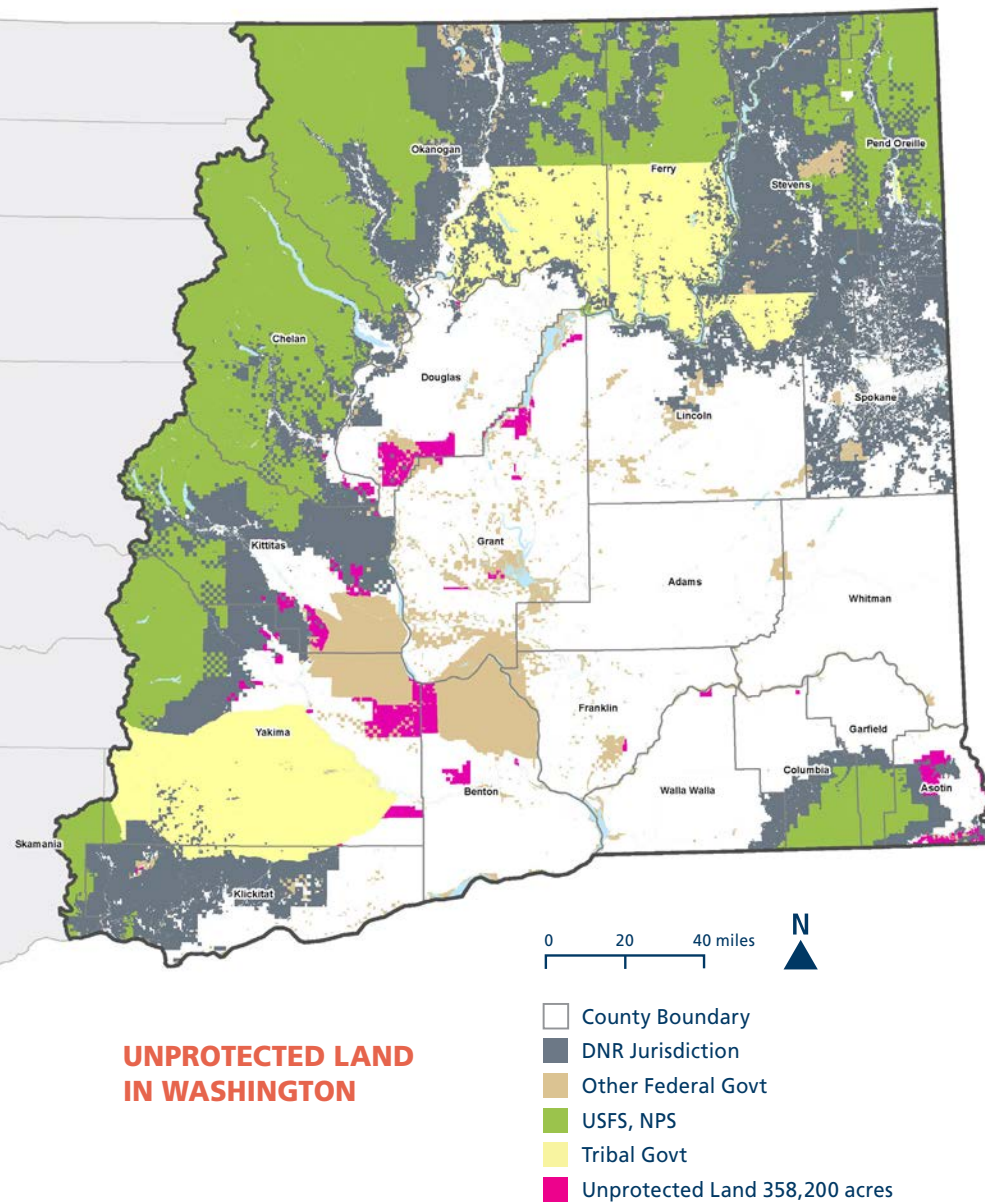
The legislature directed the Committee to develop plans to better protect non-English speaking residents during wildland fire emergencies. The Committee, in consultation with DNR and relevant stakeholders, developed the *Wildfire Response Communication Guidelines for Communities with Limited English Proficiency* (Appendix F) to provide guidance and best practices to DNR during fire events.

THE COMMITTEE BELIEVES THE ACTIONS RECOMMENDED HERE SHOULD BE VIEWED IN A BROADER STRATEGIC CONTEXT.

These recommendations represent only one part of a suite of actions necessary to meet our wildland fire protection challenges. The Wildfire Strategic Plan and its vision of *All Washington—safely managing and living with wildland fire* provides an outline of how Washington can change the trajectory of increasing costs and losses. The Committee sees these recommendations as a significant step forward but believes they should not be our only step.

These recommendations alone will not prevent all future large fires and damaging losses. However, the Committee strongly believes that over time, these recommendations will contribute to reducing the impacts of wildland fires across the state.

Importantly, if implemented as recommended, all of Washington will have wildland fire protection for the first time in the history of our state, community programs working with homeowners will be more coordinated and effective, and individuals with limited English proficiency will have more timely access to critical life-safety information during wildfire emergencies.



There Are Areas In Washington Without Wildland Fire Protection

Approximately 358,000 acres (559 square miles—a little smaller than Clark County) within Washington State are considered unprotected (see map above). Unprotected lands are distributed in eleven eastern Washington counties with Yakima and Douglas Counties having the largest amount of unprotected land. Unprotected land in both counties is relatively contiguous (i.e., Silver Dollar area of Yakima County and Palisades area of Douglas County). All of the unprotected land is located in DNR's Southeast Region.

The majority of unprotected land is held in private ownership and is largely shrub and grassland. Approximately 321,000 acres of private land and approximately 37,000 acres of state land are unprotected.



Unprotected Land in Washington (left).

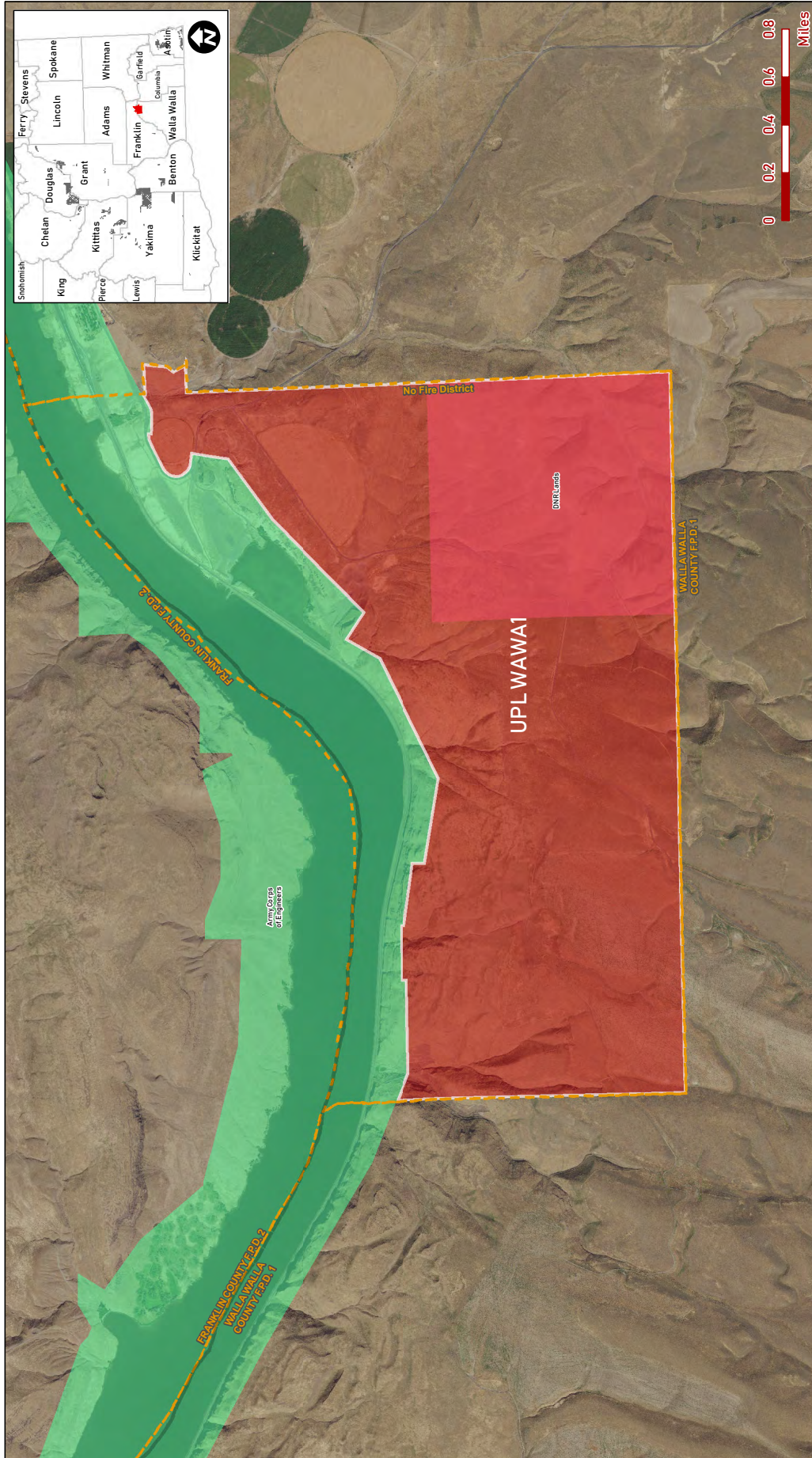
DNR analysis mapped unprotected land by eliminating any parcels with fire protection from consideration. Starting with all land within Washington, federally owned parcels were removed, as were all parcels within an established fire district or which pay FFPA. Parcels with contracts or agreements in place for wildfire response such as those between the DNR and WDFW were also removed from the map, isolating those areas that remain unprotected. No consolidated spatial data layer exists for contracts and agreements between individual parcels and fire districts and as a result, these areas are shown as unprotected in all map products. These individual contracts are not estimated to occur widely.

Unprotected land areas with less than 100 acres of contiguous land base were omitted from this analysis; most were a result of discrepancies between data layers and do not represent truly unprotected land. However, it is possible that some isolated areas less than 100 acres in size are unprotected but not represented on the map.



Appendix B

Unprotected Lands Inventory



Unprotected Lands Inventory:

UPL WAWA1

Size: 2,612.8 ac.

Open Water:	0 ac. -- 0%	Mixed Forest:	0 ac. -- 0%
Developed Open Space:	38.5 ac. -- 1.5%	Shrub Scrub:	268 ac. -- 10.3%
Developed Low Intensity:	23.8 ac. -- 0.9%	Herbaceous:	1,907.3 ac. -- 73%
Developed Medium Intensity:	12.7 ac. -- 0.5%	Hay Pasture:	0 ac. -- 0%
Developed High Intensity:	0 ac. -- 0%	Cultivated Crops:	36.6 ac. -- 1.4%
Barren Land:	0 ac. -- 0%	Floody Wetlands:	0 ac. -- 0%
Deciduous Forest:	0 ac. -- 0%	Emergent Herbaceous Wetlands:	0 ac. -- 0%
Evergreen Forest:	0 ac. -- 0%		

Land Cover Information (NLCD 2016)

- Unprotected Lands
- Fire Protection Districts
- DNR Lands
- DOD-Army Corp
- DNR Jurisdiction (white-striping)



WILDFIRE

EXHIBIT M

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA

STATES OF CALIFORNIA,
WASHINGTON, COLORADO,
CONNECTICUT, DELAWARE, ILLINOIS,
MAINE, MARYLAND, MINNESOTA,
NEVADA, NEW JERSEY, NEW MEXICO,
NEW YORK, NORTH CAROLINA,
OREGON, RHODE ISLAND, VERMONT,
AND WISCONSIN; PEOPLE OF THE
STATE OF MICHIGAN;
COMMONWEALTHS OF
MASSACHUSETTS AND
PENNSYLVANIA; TERRITORY OF
GUAM; DISTRICT OF COLUMBIA;
HARRIS COUNTY, TEXAS; CITY OF
NEW YORK; CONNECTICUT
DEPARTMENT OF ENERGY AND
ENVIRONMENTAL PROTECTION; AND
NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION,

Case No. 3:20-cv-06057

**FIRST AMENDED COMPLAINT FOR
DECLARATORY AND INJUNCTIVE
RELIEF**

(Administrative Procedure Act,
5 U.S.C. §§ 551–559, 701–706; Endangered
Species Act, 16 U.S.C. §§ 1531–1544;
National Environmental Policy Act,
42 U.S.C. §§ 4321–4347)

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Plaintiffs,

v.

COUNCIL ON ENVIRONMENTAL
QUALITY AND MARY B. NEUMAYR, in
her official capacity as Chairman of the
Council on Environmental Quality,

Defendants.

1. Plaintiffs, the State of California by and through Attorney General Xavier Becerra; the State of Washington, by and through Attorney General Robert W. Ferguson; the State of Colorado, by and through Attorney General Philip J. Weiser; the State of Connecticut and the Connecticut Department of Energy and Environmental Protection, by and through Attorney General William Tong; the State of Delaware, by and through Attorney General Kathleen Jennings; the State of Illinois, by and through Attorney General Kwame Raoul; the State of Maine, by and through Attorney General Aaron Frey; the State of Maryland, by and through Attorney General Brian E. Frosh; the People of the State of Michigan, by and through Attorney General Dana Nessel; the State of Minnesota, by and through Attorney General Keith Ellison; the State of Nevada, by and through Attorney General Aaron Ford; the State of New Jersey, by and through Attorney General Gurbir Grewal; the State of New Mexico, by and through Attorney General Hector Balderas; the State of New York and the New York State Department of Environmental Conservation, by and through Attorney General Letitia James; the State of North Carolina, by and through Attorney General Joshua H. Stein; the State of Oregon, by and through Attorney General Ellen Rosenblum; the State of Rhode Island, by and through Attorney General Peter F. Neronha; the State of Vermont, by and through Attorney General Thomas J. Donovan, Jr.; the State of Wisconsin, by and through Attorney General Joshua L. Kaul; the Commonwealth of Massachusetts, by and through Attorney General Maura Healey;

the Commonwealth of Pennsylvania, by and through Attorney General Josh Shapiro; the Territory of Guam, by and through Attorney General Leevin Taitano Camacho; the District of Columbia, by and through Attorney General Karl A. Racine; Harris County, Texas, by and through Harris County Attorney Vince Ryan; and the City of New York, by and through Corporation Counsel James E. Johnson (collectively State Plaintiffs) bring this action against Defendants Council on Environmental Quality (CEQ) and Mary Neumayr, in her official capacity as Chairman of CEQ. State Plaintiffs seek judicial review under the Administrative Procedure Act, 5 U.S.C. §§ 551–559 and 701–706 (APA), and the Endangered Species Act, 16 U.S.C. §§ 1531–1544 (ESA), of CEQ’s final rule revising its longstanding regulations implementing the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321–4347, titled Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act (Final Rule), 85 Fed. Reg. 43,304 (July 16, 2020) (to be codified at 40 C.F.R. pt. 1500).

I. INTRODUCTION

2. For more than fifty years, NEPA has served as our nation’s bedrock law for environmental protection by directing federal agencies to make well-informed decisions that protect public health and the environment. NEPA embodies our nation’s democratic values by involving states, territories, local governments, and the public in the federal decision making process.

3. In enacting NEPA, Congress recognized the “critical importance of restoring and maintaining environmental quality to the overall welfare and development of man” and emphasized a national policy of cooperation with state and local governments as well as concerned individuals and private organizations “to use all practicable means ... to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.” 42 U.S.C. § 4331(a).

1 4. Consistent with this overarching policy, Congress directed federal agencies to
2 implement NEPA “to the fullest extent possible” and to conduct a detailed environmental
3 review for “major Federal actions significantly affecting the quality of the human
4 environment” that analyzes an action’s environmental impacts, alternatives to the proposed
5 action, the relationship between short-term uses and long-term productivity, and any
6 irreversible and irretrievable commitment of resources. 42 U.S.C. §§ 4332, 4332(2)(C). As
7 the Supreme Court explained, Congress intended NEPA’s “action-forcing procedures” to help
8 “insure that the policies [of NEPA] are implemented.” *Andrus v. Sierra Club*, 442 U.S. 347,
9 350 (1979) (quoting S. Rep. No. 91-296, at 19 (1969)).

10 5. NEPA is a success story of government transparency, meaningful public
11 participation, informed decision making, and environmental and public health protection.
12 Before NEPA, federal agencies often could make decisions without considering an action’s
13 environmental impacts or public concerns about those impacts. NEPA requires that federal
14 agencies engage in a transparent, public, and informed decision making process to
15 comprehensively evaluate the environmental effects of their actions. NEPA’s focus on
16 government transparency and public participation thus ensures that states, territories, local
17 governments, businesses, organizations, and individuals have a role in shaping federal actions.
18 State and territorial agencies, local governments, and the public have long relied on the NEPA
19 process to identify harms from federal actions to state and territorial natural resources
20 (including State Plaintiffs’ air, water, public lands, cultural resources, and wildlife) and public
21 health that might otherwise be ignored. NEPA’s public process also provides vulnerable
22 communities and communities of color that are too often disproportionately affected by
23 environmental harms a critical voice in the decision making process on actions that threaten
24 adverse environmental and health impacts. NEPA thus reflects the nation’s democratic
25 principles by elevating the public’s role in agency decision making and ensuring that federal
26 agencies thoughtfully review public input before making a decision.

1 6. NEPA prioritizes careful, informed decision making over rushed and reckless
2 action, enabling agencies to consider and adopt alternatives to a proposed action or incorporate
3 mitigation measures that protect public health, preserve irreplaceable natural resources for
4 current and future generations, and avoid long-term, irreversible, and costly environmental
5 harms. NEPA has thus led to more informed decisions and better environmental and public
6 health outcomes for half a century.

7 7. Promoting better decisions by federal agencies is particularly important when
8 the nation faces the unparalleled threat of climate change, which disproportionately impacts
9 communities already overburdened with pollution and associated public health impacts.
10 Federal actions include coal, oil, and natural gas leasing; timber sales; offshore drilling;
11 interstate transportation of coal, crude oil, and natural gas; and interstate transportation
12 projects, among others. These actions threaten to exacerbate climate change harms, pollute
13 State Plaintiffs' air and water, disrupt wildlife habitats, and contribute to disproportionate
14 public health harms. Rigorous environmental review under NEPA identifies these harms,
15 helps to mitigate and avoid them, and ultimately results in more responsible, less harmful
16 federal actions.

17 8. In 1978, defendant CEQ promulgated regulations that have guided NEPA's
18 success for more than forty years. These longstanding regulations have directed federal
19 agencies, and, in some situations, state agencies and local governments involved in major
20 Federal actions significantly affecting the environment, on how to comply with NEPA's
21 procedural requirements and its environmental protection policies. *See* 40 C.F.R. pt. 1500
22 (1978) (1978 regulations).

23 9. Under the current administration, CEQ now seeks to derail NEPA by issuing a
24 Final Rule that rewrites CEQ's enduring regulations implementing NEPA at the expense of the
25 environment and the people it is meant to protect—including State Plaintiffs' residents,
26 wildlife, and natural resources. The Final Rule (i) severely limits which federal actions require

1 NEPA compliance; (ii) greatly narrows the scope of federal agencies' obligation to consider
2 environmental impacts; (iii) threatens to render NEPA's public participation process a
3 meaningless paperwork exercise; and (iv) unlawfully seeks to restrict judicial review of agency
4 actions that violate NEPA.

5 10. The Final Rule strikes at the heart of NEPA—violating NEPA's text and
6 purpose (including NEPA's clear mandate that agencies comply with the statute "to the fullest
7 extent possible," 42 U.S.C. § 4332), and abandoning informed decision making, public
8 participation, and environmental and public health protection. In the Final Rule, CEQ
9 exceeded its authority by exempting certain actions from environmental review and attempting
10 to place unlawful limits on courts' authority to remedy plaintiffs' injuries from NEPA
11 violations.

12 11. CEQ failed to provide a rational justification for its sweeping revisions to the
13 1978 regulations. The Final Rule reverses CEQ's longstanding interpretations of and guidance
14 on NEPA, undercutting decades of reliance by State Plaintiffs on well-established NEPA
15 procedures and policies that allowed states, territories, and local governments to identify
16 potential harms to their natural resources and residents and to advocate for alternatives and
17 mitigation measures to avoid those harms. CEQ asserted that the Final Rule advances the
18 original objectives of its 1978 regulations to reduce paperwork and delays while asserting that
19 it will "produce better decisions [that] further the national policy to protect and enhance the
20 quality of the human environment." Final Rule, 85 Fed. Reg. at 43,313 (citing 43 Fed. Reg.
21 55,978 (Nov. 29, 1978)). But CEQ failed to explain how the Final Rule will advance these
22 objectives when the Final Rule undercuts informed decision making and environmental
23 protection, and sweeps away decades of agency guidance and case law. CEQ also failed to
24 comply with the APA's notice-and-comment requirements in promulgating the Final Rule.
25 The Final Rule thus violates the basic requirements of rational agency decision making.
26

12. Further, the Final Rule may impact listed endangered and threatened species and designated critical habitat, yet CEQ failed to consult with the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) (collectively, Services) regarding those impacts prior to promulgating the Final Rule, as required under section 7 of the ESA. 16 U.S.C. § 1536.

13. Last, the Final Rule is unlawful because CEQ failed to review the Final Rule's significant environmental and public health impacts as required by NEPA itself.

14. For these reasons, the Final Rule is arbitrary, capricious, and contrary to law in violation of the APA and NEPA, was promulgated in excess of statutory authority and without observance of procedure required by law, and should be vacated.

II. JURISDICTION AND VENUE

15. This action raises federal questions and arises under NEPA, the APA, and the ESA. This Court therefore has jurisdiction over State Plaintiffs' claims pursuant to 28 U.S.C. § 1331 (action arising under the laws of the United States), 5 U.S.C. §§ 701–06 (APA), and 16 U.S.C. § 1540(g)(1) (ESA). State Plaintiffs seek declaratory and injunctive relief pursuant to 28 U.S.C. §§ 2201–02, 5 U.S.C. §§ 701–06, and 16 U.S.C. § 1540(g)(1)(A).

16. An actual controversy exists between the parties within the meaning of 28 U.S.C. § 2201(a), and the Court may grant declaratory and injunctive relief under 28 U.S.C. §§ 2201–02, 5 U.S.C. §§ 705–06, and 16 U.S.C. § 1540(g)(1)(A).

17. CEQ is an agency subject to APA requirements. 5 U.S.C. § 551. Each of the State Plaintiffs is a “person” authorized to bring suit under the APA to challenge unlawful final agency action. *Id.* §§ 551(2), 702. The Final Rule is a final agency action subject to review under the APA. *Id.* §§ 704, 706.

18. The United States has waived sovereign immunity for claims arising under the APA. *Id.* § 702.

19. CEQ is an agency subject to ESA requirements. 16 U.S.C. § 1540(g)(1)(A). Each of the State Plaintiffs is a “person” authorized to bring suit under the ESA to challenge violations of the ESA’s requirements. *Id.* §§ 1532(13), 1540(g)(1). On September 22, 2020, State Plaintiffs provided Defendants with sixty days’ written notice of their intent to sue, in satisfaction of ESA section 11(g). 16 U.S.C. § 1540(g)(2)(i). A copy of the notice is attached as Exhibit A.

20. State Plaintiffs submitted timely and detailed comments opposing CEQ’s proposed rule that preceded the Final Rule, *see* Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act, 85 Fed. Reg. 1,684 (Jan. 10, 2020) (Proposed Rule), and have therefore exhausted all administrative remedies.

21. Venue is proper in this Court pursuant to 28 U.S.C. § 1391(e) because this is the judicial district in which Plaintiff State of California resides, and this action seeks relief against federal agencies and officials acting in their official capacities.

III. INTRADISTRICT ASSIGNMENT

22. Although no basis exists under Civil Local Rule 3-2(c) for assigning this action to any particular location or division of this Court, this case is related to *Alaska Community Action on Toxics v. Council on Environmental Quality*, Case No. 3:20-CV-05199, which challenges the same Final Rule and is assigned to Judge Richard Seeborg in the San Francisco Division.

IV. PARTIES

A. Plaintiffs

23. Plaintiff STATE OF CALIFORNIA brings this action by and through Attorney General Xavier Becerra. The Attorney General is the chief law enforcement officer of the state and has the authority to file civil actions in order to protect public rights and interests, including actions to protect the natural resources of the state. Cal. Const. art. V, § 13; Cal. Gov’t Code §§ 12600–12. This challenge is brought in part pursuant to the Attorney General’s

1 independent authority to represent the people's interests in protecting the environment and
 2 natural resources of California from pollution, impairment, or destruction. Cal. Const. art. V,
 3 § 13; Cal. Gov't Code §§ 12511, 12600–12; *D'Amico v. Bd. of Med. Exam'rs*, 520 P.2d 10, 14
 4 (Cal. Sup. Ct. 1974).

5 24. The State of California has a sovereign interest in its natural resources and is the
 6 sovereign and proprietary owner of all the state's fish and wildlife resources, which are state
 7 property held in trust by the state for the benefit of the people of California. *People v. Truckee*
 8 *Lumber Co.*, 48 P. 374, 374 (Cal. Sup. Ct. 1897); *Nat'l Audubon Soc'y v. Superior Ct.*,
 9 658 P.2d 709, 727 (Cal. Sup. Ct. 1983).

10 25. California has millions of acres of federal land across twenty national forests,
 11 nine national parks (including world-renowned Yosemite National Park), thirty-nine national
 12 wildlife refuges, seven national monuments, and numerous Department of Defense facilities,
 13 including at least thirty-two military bases. California is also home to six primary and
 14 numerous auxiliary interstate highways, at least nine international airports, and major federal
 15 water infrastructure projects, such as the Central Valley Project, which controls a significant
 16 proportion of water distribution in the northern and southern regions of the state. Federal
 17 agencies, including the U.S. Navy and the Coast Guard, also routinely engage in activities in
 18 California's coastal waters. Major Federal actions concerning these lands, waters, projects,
 19 highways, airports, and other federal facilities are subject to NEPA.

20 26. There are currently over 300 species listed as endangered or threatened under
 21 the ESA that reside wholly or partially within the State of California and its waters—more than
 22 any other mainland state. Examples include the southern sea otter (*Enhydra lutris nereis*)
 23 found along California's central coastline, the desert tortoise (*Gopherus agassizii*) and its
 24 critical habitat in the Mojave Desert, the marbled murrelet (*Brachyramphus marmoratus*) in
 25 north coast redwood forests, as well as two different runs of Chinook salmon (*Oncorhynchus*
 26 *tshawytscha*) and their spawning, rearing, and migration habitat in the Bay-Delta and Central

1 Valley rivers and streams. These and other species are affected by federal projects throughout
 2 California. For example, Chinook salmon are threatened by the U.S. Bureau of Reclamation's
 3 proposal to raise the level of the Shasta Reservoir in northern California.

4 27. California state agencies, including the California Environmental Protection
 5 Agency, the State Water Resources Control Board, the Air Resources Board, the California
 6 Department of Food and Agriculture, and the Department of Fish and Wildlife have engaged in
 7 the federal NEPA process to protect the state's interest in public health, environmental quality,
 8 and state natural resources. For example, California agencies have commented repeatedly on
 9 NEPA documents associated with the Bureau of Reclamation's proposal to raise the level of
 10 the Shasta Reservoir. The Bureau recently published a draft Supplemental Environmental
 11 Impact Statement (EIS) for this project, which is currently open for public comment. The
 12 California Department of Water Resources and California Energy Commission also work with
 13 federal agencies in preparing NEPA documents. In addition, Caltrans, California's
 14 transportation agency, has assumed NEPA responsibilities from the Federal Highway
 15 Administration (FHWA), and is thus responsible for complying with all applicable federal
 16 environmental laws, including the Final Rule, and with FHWA's NEPA regulations that will
 17 be revised under the Final Rule. *See* Memorandum of Understanding Between FHWA and the
 18 California Department of Transportation Concerning the State of California's Participation in
 19 the Surface Transportation Project Delivery Program Pursuant to 23 U.S.C. § 327 (Dec. 2016).

20 28. Plaintiff STATE OF WASHINGTON is a sovereign entity and brings this
 21 action to protect its sovereign and proprietary rights. The Attorney General is the chief legal
 22 advisor to the State of Washington, and his powers and duties include acting in federal court on
 23 matters of public concern. This challenge is brought pursuant to the Attorney General's
 24 statutory and common law authority to bring suit and obtain relief on behalf of Washington.

25 29. Washington has a sovereign and propriety interest in protecting its state
 26 resources through careful environmental review at both the state and federal level. Washington

1 has statutory responsibility to conserve, enhance, and properly utilize the state's natural
 2 resources. Wash. Rev. Code. §§ 77.110.030, 90.03.010, 90.58.020; *see also* Wash. Const. art.
 3 XVI, § 1. Washington has over six million acres of forest, range, agricultural, aquatic, and
 4 commercial lands and holds proprietary rights for wildlife, fish, shellfish, and tide lands. Wash.
 5 Const. art. XVII, § 1; Wash. Rev. Code § 77.04.012.

6 30. Washington State has dozens of federally listed species. These listed species
 7 include chinook (*Oncorhynchus tshawytscha*), chum (*Oncorhynchus keta*), and sockeye
 8 (*Oncorhynchus nerka*) salmon, steelhead (*Oncorhynchus mykiss*), Southern Resident killer
 9 whales (*Orcinus orca*) and the pygmy rabbit (*Brachylagus idahoensis*), the smallest rabbit in
 10 North America. Washington also lists thirty-two species as state endangered species and
 11 expends significant resources to protect and recover these species, some of which are not
 12 federally protected. Wash. Admin. Code 220-610-010.

13 31. Washington's natural resources generate more than \$200 million in annual
 14 financial benefits to state public schools, institutions, and county services. They also generate
 15 billions of dollars worth of ecosystem services to surrounding communities by filtering
 16 drinking water, purifying air, and providing space for recreation. Washington's natural areas
 17 generate commercial and recreational opportunities that put billions of dollars into the
 18 Washington economy annually.

19 32. Washington has over 3,000 miles of coastline and millions of acres of federal
 20 lands across ten national forests, three national parks, twenty-three national wildlife refuges,
 21 three national monuments, and numerous Department of Defense locations, including at least
 22 seven military facilities and training areas. Many of these federal lands abut Washington's
 23 state-owned lands. Washington is also home to 145 federally owned or regulated dams,
 24 including Grand Coulee Dam, three interstate highways, five international airports, and the
 25 Hanford Nuclear Reservation. Federal agencies, including the U.S. Navy and the Coast Guard,
 26 also routinely engage in activities in Washington's coastal waters and the adjacent exclusive

1 economic zone and within Puget Sound, one of Washington's most significant ecological,
2 cultural, and economic features. Major Federal actions concerning these lands, waters,
3 projects, highways, airports, and other federal facilities are subject to NEPA.

4 33. Washington state agencies, including the Department of Ecology, the
5 Department of Fish and Wildlife, the Department of Transportation (WSDOT), the Department
6 of Natural Resources, and the Department of Health regularly engage in the federal NEPA
7 process as cooperating and commenting agencies or as agencies with special expertise
8 highlighting potential impacts to the state's natural resources and public health. For example,
9 WSDOT and FHWA jointly worked on the NEPA process to replace the State Route 99
10 Alaskan Way viaduct in Seattle, Washington, where rigorous environmental review and
11 meaningful public engagement led to a selected alternative that worked for state and federal
12 agencies, local governments, tribes, and the public, including minority and low-income
13 communities. Federal agency activities and actions requiring federal permits that affect
14 Washington's coastal zone, water quality, wildlife, and cultural resources are subject to NEPA
15 and are also reviewed by state agencies for consistency and compliance with Washington's
16 laws and programs. In some situations, such as certain actions on federal lands, NEPA is the
17 sole means for state agencies to advocate for protection of Washington's resources, including
18 protection of state (but not federally) listed species and other species of concern and their
19 habitat, and to identify unintended consequences of a proposed action.

20 34. Plaintiff STATE OF COLORADO is a sovereign entity that regulates land use,
21 water and air quality, wildlife, and water resources within its borders through duly enacted
22 state laws. The State of Colorado brings this action in its sovereign and proprietary capacity to
23 protect public health, safety, welfare, its waters and environment, its wildlife and wildlife
24 habitat, and its economy.

25 35. Clean air, land, and water provide ecologically vibrant habitats that undergird
26 the state's robust outdoor recreation economy. For instance, in Colorado, fishing and wildlife

1 watching each contribute \$2.4 billion in economic output each year, supporting more than
 2 30,000 jobs within the state. Hunting supports nearly 8,000 additional jobs and contributes
 3 more than \$800 million in annual economic output. The entire outdoor recreation economy,
 4 which also includes hiking, skiing, and other activities, accounts for \$62.5 billion dollars of
 5 economic output in Colorado. Colo. Parks & Wildlife, *The 2017 Economic Contributions of*
 6 *Outdoor Recreation in Colorado* (July 2018). Agriculture is also an important economic
 7 engine and cultural resource in Colorado. As of 2019, Colorado's agricultural industry
 8 contributed \$47 billion in economic output and directly employed more than 195,000 workers.
 9 The natural environment influences all aspects of agriculture and food production in Colorado.

10 36. Colorado is home to seventeen federally listed animals, including the recently-
 11 listed Eastern black rail (*Laterallus jamaicensis*), the Canada lynx (*Lynx canadensis*), the
 12 bonytail (*Gila elegans*), the greenback cutthroat trout (*Oncorhynchus clarki stomias*), which is
 13 designated as the state fish, and the only ferret native to the Americas, the black-footed ferret
 14 (*Mustela nigripes*). Colorado lists thirty-one animal species as state endangered or threatened
 15 species, a number of which are not federally protected. The state is also home to sixteen
 16 federally listed plants, including the Colorado hookless cactus (*Sclerocactus glaucus*) and the
 17 Pagosa skyrocket (*Ipomopsis polyantha*).

18 37. As Colorado's population rapidly grows, the state must ensure that projects
 19 intended to serve that population also protect the natural environment for current and future
 20 generations. For example, the Colorado Department of Transportation prepares environmental
 21 analyses for projects involving state and interstate highways, bridges, and multi-modal
 22 transportation. Similarly, the Colorado Department of Agriculture participates in NEPA
 23 reviews for public-land grazing permit renewals and for range improvement projects involving
 24 water distribution systems and habitat management. Colorado's Department of Public Health
 25 and Environment reviews projects for oil and gas leases, transportation, and wastewater
 26 infrastructure as part of the NEPA process. The Colorado Department of Natural Resources

1 utilizes and participates in NEPA processes for land use and water planning, disaster
2 preparedness, and fish and wildlife protection.

3 38. Through early and meaningful involvement in the NEPA process, state agencies
4 help ensure that NEPA reviews are informed by accurate technical and scientific analysis and
5 preserve important natural, historic, and cultural resources in Colorado communities. To this
6 end, Colorado agencies regularly consider direct, indirect, and cumulative impacts on the
7 natural environment and general welfare.

8 39. Plaintiff STATE OF CONNECTICUT is a sovereign entity and brings this
9 action to protect its citizens and natural resources. The Connecticut Attorney General is an
10 elected constitutional official and the chief legal officer of the State of Connecticut. The
11 Connecticut Attorney General's responsibilities include intervening in various judicial and
12 administrative proceedings to protect the interests of the citizens and natural resources of the
13 State of Connecticut and ensuring the enforcement of a variety of laws of the State of
14 Connecticut. This challenge is brought pursuant to the Attorney General's statutory and
15 common law authority to bring suit and obtain relief on behalf of the State of Connecticut.

16 40. Connecticut has a sovereign interest in protecting the health and safety of its
17 citizens and its natural resources. Connecticut has a statutory duty to protect, conserve, and
18 properly utilize its natural resources and public trust lands. Connecticut has over 1.7 million
19 acres of forest, 173,000 acres of wetlands, 437,000 acres of agricultural land, 70,000 acres of
20 shellfishing beds, and 22,000 acres of public trust lands, not including the entire seafloor of
21 Long Island Sound up to the New York border, which Connecticut holds in public trust.
22 Connecticut lists twenty-three species as endangered species and expends significant resources
23 to protect these species. Connecticut's natural resources generate hundreds of millions of
24 dollars in annual financial benefits to the state and its citizens.

25 41. Connecticut is home to fifteen federally listed animals, including the Puritan
26 Tiger Beetle (*Cicindela puritana*), the Dwarf Wedgemussel (*Alasmodonta heterodon*), and the

1 Roseate Tern (*Sterna dougallii*), and four federally listed plants, including the Small Whorled
 2 Pogonia (*Isotria medeoloides*) and the American Chaffseed (*Schwalbea americana*). Seven
 3 additional animal species known to occur in Connecticut have been proposed for federal listing
 4 under the ESA.

5 42. Connecticut has 322 miles of coastline and three major ports (Bridgeport, New
 6 Haven, and New London). Long Island Sound is Connecticut's largest and most important
 7 maritime natural resource and is vital to Connecticut's economy. Maritime business accounts
 8 for approximately five billion dollars in state economic output and provides 30,000 jobs and
 9 tens of millions of dollars in state and local taxes.

10 43. Connecticut is also home to sixteen federally regulated dams, three interstate
 11 highways, an international airport, and the Naval Submarine Base in New London. Major
 12 Federal actions concerning these lands, waters, projects, highways, airports, and other federal
 13 facilities are subject to NEPA.

14 44. Connecticut state agencies, including the Department of Energy and
 15 Environmental Protection, the Department of Transportation, and the Department of Health
 16 regularly engage in the federal NEPA process, often as agencies with special expertise relevant
 17 to the potential impacts to the state's natural resources and public health. In these cases, the
 18 opportunity for rigorous environmental review and meaningful public engagement have been
 19 critical for state agencies, local governments, tribes, and the public, particularly for minority
 20 and low-income communities. Federal agency activities and actions requiring federal permits
 21 that affect Connecticut's coastal zone, water quality, wildlife, and cultural resources are subject
 22 to NEPA and are also reviewed by state agencies for consistency and compliance with
 23 Connecticut's laws and programs. In some situations, NEPA is the sole means for Connecticut
 24 agencies to advocate for protection of Connecticut's citizens and natural resources.

25 45. Plaintiff STATE OF DELAWARE is a sovereign state of the United States of
 26 America. Delaware brings this action by and through Attorney General Kathleen Jennings,

1 who is the chief law officer of Delaware, *Darling Apartment Co. v. Springer*, 22 A.2d 397, 403
 2 (Del. 1941), and is empowered and charged with the duty to represent as counsel in all
 3 proceedings or actions which may be brought on behalf or against the state and all officers,
 4 agencies, departments, boards, commissions and instrumentalities of state government, Del.
 5 Code Ann. tit. 29, § 2504.

6 46. The State of Delaware has twenty-two federally listed endangered and
 7 threatened species. These listed species include Atlantic sturgeon (*Acipenser oxyrinchus*),
 8 shortnose sturgeon (*Acipenser brevirostrum*), loggerhead sea turtle (*Caretta caretta*), bog turtle
 9 (*Glyptemys muhlenbergii*), red knot (*Calidris canutus*), black rail (*Laterallus jamaicensis*),
 10 piping plover (*Charadrius melodus*), northern long-eared bat (*Myotis septentrionalis*), swamp
 11 pink (*Helonias bullata*) and seabeach amaranth (*Amaranthus pumilus*). Delaware also lists an
 12 additional sixty-nine species as state endangered species that are not federally listed.

13 47. As one of the most low-lying states in the nation, Delaware is particularly at
 14 risk from the harms of climate change, including sea level rise. For example, a 2012 Delaware
 15 Sea Level Rise Vulnerability Assessment found that sea level rise of only 0.5 meters would
 16 inundate either percent of the state's land area. Areas inundated would include "transportation
 17 and port infrastructure, historic fishing villages, resort towns, agricultural fields, wastewater
 18 treatment facilities and vast stretches of wetlands and wildlife habitat of hemispheric
 19 importance." The Assessment concluded that "every Delawarean is likely to be affected by sea
 20 level rise whether through increased costs of maintaining public infrastructure, decreased tax
 21 base, loss of recreational opportunities and wildlife habitat, or loss of community character."

22 48. Multiple entities within Delaware rely on NEPA as cooperating agencies. For
 23 example, the Delaware Coastal Management Program uses information provided in the federal
 24 consistency determination required under Section 307 of the Coastal Zone Management Act of
 25 1972 to assess impacts to Delaware's coastal uses and resources. Federal agencies are
 26 encouraged to use NEPA material to satisfy the federal consistency determination

1 requirements. Therefore, any rollback of NEPA obligations may cause the quality of
 2 information submitted to degrade, leaving Delaware's coastal uses and resources more
 3 vulnerable to federal activities in the state. Similarly, the Division of Water receives NEPA
 4 documents in support of permit applications, such as Water Quality Certification
 5 determinations. Delaware relies on the federal NEPA process to coordinate its protection of
 6 the state's interests.

7 49. Plaintiff STATE OF ILLINOIS brings this action by and through Attorney
 8 General Kwame Raoul. The Attorney General is the chief legal officer of the State of Illinois
 9 (Ill. Const., art. V, § 15) and "has the prerogative of conducting legal affairs for the State."
 10 *Env't'l Prot. Agency v. Pollution Control Bd.*, 372 N.E.2d 50, 51 (Ill. Sup. Ct. 1977). He has
 11 common law authority to represent the People of the State of Illinois and "an obligation to
 12 represent the interests of the People so as to ensure a healthful environment for all the citizens
 13 of the State." *People v. NL Indus.*, 604 N.E.2d 349, 358 (Ill. Sup. Ct. 1992).

14 50. Illinois has a sovereign interest in protecting its natural resources through
 15 careful environmental review at the federal level. Among other interests, Illinois has
 16 "ownership of and title to all wild birds and wild mammals within the jurisdiction of the state."
 17 520 Ill. Comp. Stat. 5/2.1. There are currently thirty-four species listed as endangered or
 18 threatened under the ESA that reside wholly or partially within the State of Illinois and its
 19 waters. For example, the Illinois cave amphipod (*Gammarus acherondytes*) is a small
 20 crustacean that is endemic to six cave systems in Illinois' Monroe and St. Clair County.
 21 Illinois is also home to the piping plover (*Charadrius melodus*). Additionally, the Illinois
 22 Endangered Species Protection Board has listed 372 endangered species, many of which are
 23 not federally protected. The state expends resources to protect and recover these species.

24 51. Furthermore, federally managed lands in Illinois are vitally important to the
 25 state and in need of protection. The Shawnee National Forest spans over 289,000 acres in
 26 southern Illinois and straddles six natural ecological regions; the Midewin National Tallgrass

1 Prairie is the largest open space in the Chicago metropolitan area. Additionally, significant oil
2 and gas pipeline development takes place in Illinois.

3 52. Plaintiff STATE OF MAINE, a sovereign state of the United States of America,
4 brings this action by and through its Attorney General Aaron Frey. The Attorney General of
5 Maine is a constitutional officer with the authority to represent the State of Maine in all matters
6 and serves as its chief legal officer with general charge, supervision, and direction of the state's
7 legal business. Me. Const. art. IX, § 11; 5 M.R.S.A. §§ 191–205. The Attorney General's
8 powers and duties include acting on behalf of Maine and the people of Maine in the federal
9 courts on matters of public interest. The Attorney General has the authority to file suit to
10 challenge action by the federal government that threatens the public interest and welfare of
11 Maine residents as a matter of constitutional, statutory, and common law authority.

12 53. Maine has a sovereign interest in protecting its natural resources through careful
13 environmental review at both the state and federal level. Maine has over 3,000 miles of
14 coastline, a coastline that generates millions of dollars in commercial fishing income and
15 tourism income, and recreational opportunities to the residents of the state. Federal agencies'
16 activities in these vital coastal waters are regulated under NEPA. Federally protected lands in
17 Maine total 295,479 acres, including Acadia National Park, which includes 47,000 acres, and
18 Katahdin Woods and Waters National Monument, with 87,563 acres. Maine has eleven
19 National Wildlife Refuges which encompass 76,230 acres, including the renowned Rachel
20 Carson National Wildlife Refuge. Maine has two federal fish hatcheries, several airports, one
21 military base, 365 miles of federal interstate highways, and ninety-two federally licensed dams.

22 54. The State of Maine has seventeen species federally listed as endangered or
23 threatened. These listed species include Piping Plovers (*Charadrius melodus*), Leatherback
24 sea turtles (*Dermochelys coriacea*), Roseate terns (*Sterna dougallii*), Northern Atlantic Right
25 Whales (*Eubalaena glacialis*), Canada Lynx (*Lynx canadensis*), Atlantic Salmon (*Salmo*
26 *salar*), Northern Long-Eared Bats (*Myotis septentrionalis*), and Rusty patched bumble bees

1 (*Bombus affinis*). Maine lists 64 marine and inland species as endangered or threatened in the
 2 State, most of which are not federally listed. The State devotes considerable resources to
 3 protecting these species and the habitat that is vital to their survival and recovery.

4 55. Maine's environmental agencies, including the Department of Environmental
 5 Protection, the Department of Marine Resources, the Department of Inland Fisheries and
 6 Wildlife, and the Department of Agriculture, Conservation and Forestry, engage in the federal
 7 NEPA process to protect the state's natural resources and public health. NEPA review of
 8 Federal agency activities and activities requiring federal permits that affect Maine's natural
 9 resources provides essential protection to Maine's environment.

10 56. Plaintiff STATE OF MARYLAND brings this action by and through its
 11 Attorney General, Brian E. Frosh. The Attorney General of Maryland is the state's chief legal
 12 officer with general charge, supervision, and direction of the state's legal business. Under the
 13 Constitution of Maryland and as directed by the Maryland General Assembly, the Attorney
 14 General has the authority to file suit to challenge action by the federal government that
 15 threatens the public interest and welfare of Maryland residents. Md. Const. art. V, § 3(a)(2);
 16 Md. Code. Ann., State Gov't § 6-106.1. Maryland has enacted its own Environmental Policy
 17 Act, *see* Md. Code. Ann., Nat. Res. §§ 1-301 *et seq.*, which is triggered upon the general
 18 assembly's appropriation of funding for major projects.

19 57. The State of Maryland has a sovereign and proprietary interest in protecting its
 20 state resources through careful environmental review of major federal actions. These resources
 21 include the Chesapeake Bay, one of the nation's most productive estuaries with a watershed
 22 that spans 64,000 square miles across six states and the District of Columbia. It is the official
 23 policy of the state "to conserve species of wildlife for human enjoyment, for scientific
 24 purposes, and to insure their perpetuation as viable components of their ecosystems."
 25 Maryland Nongame and Endangered Species Conservation Act, Md. Code. Ann., Nat. Res.
 26 § 10-2A-02. To that end, more than 150 species of animals and 340 species of plants are listed

1 as state endangered, threatened, or in need of conservation. *See* COMAR 08.03.08 (providing
2 lists of plant and wildlife species with elevated conservation statuses).

3 58. Twenty-one federally listed species, including thirteen animals and eight plants,
4 are believed to occur in Maryland. Currently listed species include the federally endangered
5 dwarf wedgemussel (*Alasmidonta heterodon*), the federally threatened bog turtle (*Glyptemys*
6 *muhlenbergii*), and the federally threatened Puritan tiger beetle (*Cicindela puritan*). Maryland
7 is also home to one of the Endangered Species Act's biggest success stories, the Delmarva Fox
8 Squirrel (*Sciurus niger cinereus*), which thanks to federal, state, and private conservation
9 efforts, was removed from the list of federally threatened species in 2010.

10 59. The federal government has a large presence in Maryland. There are more than
11 480 miles of interstate highways in Maryland, including I-95, I-70, the Baltimore Beltway, and
12 portions of the capital beltway that connects the greater Washington, D.C. Metropolitan Area.
13 A number of federally owned or operated facilities are also located in Maryland including the
14 Aberdeen Proving Ground, U.S. Naval Academy in Annapolis, and Camp David.
15 Additionally, the state is home to five National Wildlife Refuges, the Assateague Island
16 National Seashore, and numerous national parks, monuments, and battlefields. Major federal
17 actions concerning these lands, waters, highways, and parks are subject to NEPA review.

18 60. Maryland agencies frequently participate in and rely on the federal NEPA
19 process as cooperating and commenting agencies. The State Highway Administration, for
20 example, addresses floodplain management for federally funded projects through NEPA, and
21 the Maryland Department of the Environment completes NEPA-like reviews for projects
22 funded through the U.S. Environmental Protection Agency's State Revolving Fund programs
23 for clean water and drinking water.

24 61. Plaintiff PEOPLE OF THE STATE OF MICHIGAN brings this action by and
25 through Attorney General Dana Nessel, who is authorized by statute and under common law to
26 initiate litigation in the public interest on behalf of the People of the State of Michigan.

1 62. Michigan has twenty-six federally listed threatened and endangered species.
2 The listed species include the Eastern Massasauga rattlesnake (*Sistrurus catenatus*), the
3 Canada lynx (*Lynx canadensis*), and the Piping plover (*Charadrius melodus*).

4 63. Among other things, the People of the State of Michigan will be harmed by the
5 federal government's dereliction of duty in the Final Rule's treatment of climate change under
6 NEPA. Michigan is already being harmed by climate change. Since 1951, the average annual
7 temperature has increased by a range of 0.6-1.3 degrees Fahrenheit across the Lower
8 Peninsula. During that same time, annual average precipitation increased by 4.5 percent as
9 well. Michigan faces extreme heat events, excess rain and flooding, respiratory illnesses, heat-
10 related illnesses, and both waterborne and vector-borne diseases. As a result, Michigan is
11 tasked with protecting its citizens from temperature-related illness, respiratory diseases,
12 waterborne diseases exacerbated by extreme rain events, and infectious diseases such as Lyme
13 disease and West Nile Virus. Increased precipitation will also damage Michigan roads,
14 bridges, dams and other physical infrastructure.

15 64. Plaintiff STATE OF MINNESOTA brings this action by and through its chief
16 legal officer, Attorney General Keith Ellison, to protect Minnesota's interest in its natural
17 resources and the environment. This challenge is brought pursuant to the Attorney General's
18 authority to represent the state's interests. Minn. Stat. § 8.01. Minnesota has enacted and
19 devotes significant resources to implementing numerous laws concerning the management,
20 conservation, protection, restoration, and enhancement of its natural resources. *See, e.g.*,
21 Minn. Stat. Chs. 116B, 116D. Minnesota owns its wildlife resources, Minn. Stat. § 97A.025,
22 and manages them for the benefit of all citizens. Minnesota state agencies, including the
23 Minnesota Pollution Control Agency, the Department of Natural Resources, the Public Utilities
24 Commission, the Department of Commerce, and the Environmental Quality Board regularly
25 engage in the federal NEPA process to protect the state's interest in public health,
26

1 environmental quality, and state natural resources. Minnesota has a direct interest in the
2 strength and integrity of NEPA's implementing regulations.

3 65. Minnesota is home to Voyageurs National Park, two national monuments, two
4 national forests, three wilderness areas, and one national recreation area. In 2019, there were
5 1,099,276 recreational visits to federal lands and facilities in Minnesota, generating over \$60
6 million in visitor spending for the Minnesota economy. *2019 National Park Visitor Spending*
7 *Effects Report*, National Park Service, (Apr. 2020), [https://www.nps.gov/subjects/](https://www.nps.gov/subjects/socialscience/vse.htm)
8 [socialscience/vse.htm](https://www.nps.gov/subjects/socialscience/vse.htm). These figures do not include the more than 110,000 visitors who
9 traveled through the Boundary Waters Canoe Area Wilderness (BWCAW) every year between
10 2009 and 2016. *USFS Permit and Visitor Use Trends, 2009-2016*, USDA Forest Service, (July
11 7, 2017), https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd549672.pdf. The
12 BWCAW is the most visited wilderness area in the United States.

13 66. Federally listed endangered species in Minnesota include the Rusty-Patched
14 Bumble Bee, (*bombus affinis*), the Topeka Shiner (*nontropis topeka*), the Higgins Eye
15 Pearlymussel (*lampsilis higininsi*), and the Winged Mapleleaf Mussel (*quadrula fragosa*). Of
16 special concern are the Canada lynx (*lynx canadensis*) and the Western Prairie Fringed Orchid
17 (*plantanthera praeclara*).

18 67. There are several major infrastructure projects currently proposed in Minnesota
19 that have been or will be subject to NEPA review. For example, Enbridge Energy, Limited
20 Partnership seeks to replace an oil pipeline that traverses Minnesota, which requires several
21 state and federal permits. There are also two proposed copper-nickel mining projects in
22 Minnesota—one in the watershed of the Boundary Waters Canoe Area Wilderness—that will
23 require many state and federal permits. These projects have attracted a great deal of public
24 attention from Minnesotans and millions, including Minnesota state agencies, have participated
25 in the review processes to date.
26

68. Plaintiff STATE OF NEVADA is a sovereign entity and brings this action by and through Attorney General Aaron Ford to protect its sovereign and proprietary rights. The Nevada Attorney General is the chief law enforcement officer of the State. Attorney General Ford's powers and duties include acting in federal court on matters of public concern and he has the authority to file civil actions in order to protect public rights and interests, including actions to protect the natural resources of the State. Nev. Const. art. V, § 19; Nev. Rev. Stat. §§ 228.170, 228.180. This challenge is brought pursuant to the Attorney General's independent constitutional, statutory, and common law authority to represent the people's interests in protecting the environment and natural resources of the State of Nevada from pollution, impairment, or destruction. Nev. Const. art. V, § 19; Nev. Rev. Stat. § 228.180.

69. Nevada has a sovereign and propriety interest in protecting its natural resources through careful environmental review and is the sovereign and proprietary owner of all the State's fish and wildlife and water resources, which are State property held in trust by the State for the benefit of the people of the State. N.R.S. 501.100 provides that "[w]ildlife in this State not domesticated and in its natural habitat is part of the natural resources belonging to the people of the State of Nevada [and t]he preservation, protection, management and restoration of wildlife within the State contribute immeasurably to the aesthetic, recreational and economic aspects of these natural resources." *See Ex parte Crosby*, 38 Nev. 389, 149 P. 989 (1915); *See also, Kleppe v. New Mexico*, 426 U.S. 529, 545 (1976) ("Unquestionably the States have broad trustee and police powers over wild animals within their jurisdictions."). In addition, the State of Nevada has enacted numerous laws concerning the conservation, protection, restoration and enhancement of the fish and wildlife resources of the State, including endangered and threatened species, and their habitat. As such, the State of Nevada has an interest in protecting species in the State from actions both within and outside of the State. Nevada's natural resources generate more than one hundred million dollars in annual financial benefits to state public schools, institutions, and county services. Nevada's natural

1 areas also generate commercial and recreational opportunities that put billions of dollars into
 2 Nevada's economy annually.

3 70. There are currently over thirty-eight species listed as endangered or threatened
 4 under the ESA that reside wholly or partially within the State of Nevada. Examples include
 5 the desert tortoise (*Gopherus agassizii*) and its critical habitat in the Mojave Desert, the Devil's
 6 Hole pupfish (*Cyprinodon diabolis*) reliant on limited aquifers within the Amargosa Desert
 7 ecosystem, the Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*) indigenous to
 8 Pyramid and Walker Lakes and nearly extirpated by American settlement in the Great
 9 Basin, Sierra Nevada bighorn sheep (*Ovis Canadensis sieera*), and the greater sage-grouse
 10 (*Centrocercus urophasianus*) found in the foothills, plains and mountain slopes where
 11 sagebrush is present across fifteen of Nevada's seventeen counties.

12 71. Nevada has approximately 58,226,015 acres of federally-managed lands,
 13 totaling about 84.9 percent of the State's lands, including three national forests, two national
 14 parks, three national historic trails, nine national wildlife refuges, three national monuments,
 15 one national recreation area, two international airports, seventy wilderness areas, and numerous
 16 Department of Defense and Department of Energy locations. The federal agencies that manage
 17 these millions of acres and federal actions concerning these lands are subject to NEPA,
 18 including the Bureau of Indian Affairs, the Bureau of Land Management, the Bureau of
 19 Reclamation, the Department of Defense, the Department of Energy, the FWS, the Forest
 20 Service, and the National Park Service. Moreover, additional non-federal lands and facilities
 21 in Nevada are subject to federal permitting and licensing requirements.

22 72. Nevada state departments and agencies, including the Department of
 23 Conservation and Natural Resources and its many Divisions, the Department of Wildlife, the
 24 Department of Transportation, the Agency for Nuclear Projects, the Department of Agriculture,
 25 the Colorado River Commission, and the Nevada System of Higher Education, regularly
 26 engage in the federal NEPA process as cooperating and commenting agencies or as agencies

1 with special expertise highlighting potential impacts to the state's natural resources and public
2 health. Federal agency activities and actions requiring federal permits that affect Nevada's
3 environmental quality, wildlife, mineral, and cultural resources are subject to NEPA and are
4 also reviewed by state agencies for consistency and compliance with Nevada's laws and
5 programs. In some situations, NEPA is the sole means for state agencies to advocate for
6 protection of Nevada's resources.

7 73. Plaintiff STATE OF NEW JERSEY is a sovereign state of the United States of
8 America and brings this action on behalf of itself and as trustee, guardian and representative of
9 the residents and citizens of New Jersey. As the most densely developed state in the country,
10 New Jersey has actively pursued conservation programs for land and natural resources. New
11 Jersey's voters have approved more than \$3.3 billion in funding for New Jersey Department of
12 Environmental Protection's (NJDEP) Green Acres program to conserve ecologically-sensitive
13 or natural resource-laden properties. Similarly, over 230,000 acres of farmland have been
14 conserved through New Jersey's State Agricultural Development Committee.

15 74. New Jersey expends significant resources protecting its natural resources,
16 including eighty-three state-listed threatened or endangered species, and holds all wildlife, fish,
17 shellfish, and tidal waters in trust for its citizens. New Jersey has at least fourteen federally
18 listed species, including the threatened piping plover (*Charadrius melodus*), red knot (*Calidris*
19 *canutus rufa*), and the recently designated New Jersey state reptile, the bog turtle (*Clemmys*
20 *muhlenbergii*).

21 75. New Jersey is home to well over one hundred miles of coastline, which includes
22 the famed Jersey Shore as a significant tourism driver, and federal activities such as seismic
23 testing and offshore drilling have historically been proposed off of New Jersey's coastline.
24 New Jersey is also home to three primary interstate highways and numerous auxiliary interstate
25 highways, including auxiliary highways running from other states' interstate systems,
26 numerous military installations, including Joint Base McGuire-Dix-Lakehurst, and federal

1 parks and natural areas where a fully functional NEPA process is essential to sound
 2 environmental planning. Due to its geographic location, New Jersey has also become the site
 3 for numerous proposed energy transmission infrastructure projects which require federal
 4 approvals and are subject to NEPA. New Jersey agencies and authorities, including but not
 5 limited to NJDEP, regularly engage in the federal NEPA process. NJDEP routinely comments
 6 during the NEPA process to inform the relevant federal agency about mechanisms to avoid,
 7 minimize, and/or mitigate potential impacts to the environment and public health, as well as to
 8 educate the federal agency about New Jersey's own statutory and regulatory requirements.
 9 Further, project proponents may use an EIS properly completed under NEPA or properly
 10 promulgated categorical exemptions as a substitute for compliance with New Jersey's
 11 Executive Order 215 (1989).

12 76. Plaintiff STATE OF NEW MEXICO joins in this action by and through
 13 Attorney General Hector Balderas. The Attorney General of New Mexico is authorized to
 14 prosecute in any court or tribunal all actions and proceedings, civil or criminal, when, in his
 15 judgment, the interest of the state requires such action. N.M. Stat. Ann. § 8-5-2. New Mexico
 16 has a statutory duty to "ensure an environment that in the greatest possible measure will confer
 17 optimum health, safety, comfort and economic and social well-being on its inhabitants; will
 18 protect this generation as well as those yet unborn from health threats posed by the
 19 environment; and will maximize the economic and cultural benefits of a healthy people." *Id.*
 20 § 74-1-2.

21 77. Federal agencies have an enormous footprint in New Mexico. More than one-
 22 third of New Mexico's land is federally administered, with the United States Department of
 23 Agriculture, Department of the Interior, and Department of Defense playing active roles in
 24 land management within the state. The state is home to the nation's newest national park
 25 (White Sands National Park, established 2019); first designated wilderness area (Gila
 26 Wilderness, established 1924); and largest military installation (White Sands Missile Range).

1 It also hosts two National Laboratories, three Air Force Bases, and the nation's only deep
 2 geologic repository for nuclear waste (the United States Department of Energy's Waste
 3 Isolation Pilot Project or WIPP). The state contains a significant portion of the Navajo Nation
 4 Indian reservation as well as twenty-two other federally recognized Indian tribes. The U.S.
 5 Army Corps of Engineers operates seven dams in New Mexico, and the U.S. Department of
 6 Agriculture manages five in-state National Forests, comprising over nine million acres. The
 7 Bureau of Land Management (BLM) also oversees over thirteen million acres of public lands,
 8 thirty-six million acres of federal mineral estate, and approximately eight million acres of
 9 Indian trust minerals in New Mexico. BLM has approved over 7,800 oil and gas leases in the
 10 state, as well as twenty-one federal coal leases encompassing 42,756 acres.

11 78. New Mexico is home to a vast array of plant and animal species, many of which
 12 are either threatened or endangered. Indeed, FWS lists forty-one animal and fourteen plant
 13 species as threatened or endangered in New Mexico. These include the endangered, iconic
 14 Southwestern willow flycatcher (*Empidonax traillii extimus*), the endangered Rio Grande
 15 silvery minnow (*Hybognathus amarus*), the endangered jaguar (*Panthera onca*), the
 16 endangered Mexican wolf (*Canis lupus baileyi*), and the threatened Mexican spotted owl (*Strix*
 17 *occidentalis lucida*). Furthermore, the New Mexico Department of Game and Fish maintains
 18 its own list of 116 in-state threatened and endangered species and subspecies – including
 19 crustaceans, mollusks, fishes, amphibians, reptiles, birds, and mammals – many of which are
 20 not listed by FWS and do not receive federal protection. Among the species receiving only
 21 state protection are the endangered Gila monster (*Heloderma suspectum*), the endangered
 22 brown pelican (*Pelecanus occidentalis*), and the threatened white-sided jackrabbit (*Lepus*
 23 *callotis*).

24 79. New Mexico faces serious environmental challenges in the 21st century. The
 25 state is already experiencing the adverse effects of climate change, and average temperatures in
 26 New Mexico have been increasing fifty percent faster than the global average over the past

1 century. According to the Third U.S. National Climate Assessment, streamflow totals in the
2 Rio Grande and other rivers in the Southwest were five percent to thirty-seven percent lower
3 between 2001 and 2010 than the 20th century average flows. As of August 20, 2020,
4 100 percent of the state is suffering from drought conditions, with approximately 55.5 percent
5 being in a “severe drought.” (*See* Nat’l Integrated Drought Info. Sys.,
6 <https://www.drought.gov/drought/states/new-mexico>). It is estimated that forty percent of
7 Navajo Nation residents already lack running water.

8 80. New Mexico relies on participation in the NEPA process to protect its
9 proprietary and sovereign interests in its natural resources, including weighing the short-term
10 benefits of resource extraction against the long-term effects of climate change, and conserving
11 scarce water resources. In one recent example, the New Mexico State Auditor’s Office, the
12 New Mexico Department of Game and Fish, and the New Mexico Department of Agriculture
13 submitted comments to BLM regarding the Farmington Mancos-Gallup Resource Management
14 Plan Amendment, calling BLM’s attention to, among other things, the state’s land and water
15 conservation planning efforts. Other EISs the state has recently commented on include those
16 for Los Alamos National Lab (Sitewide EIS); the New Mexico Unit of the Central Arizona
17 Project (regarding diversion of water from the Gila River); and Plutonium Pit Production at the
18 Department of Energy’s Savannah River Site (regarding effects from waste shipped to WIPP).
19 The New Mexico Environment Department alone has submitted comments on eleven EISs in
20 2020 so far.

21 81. Plaintiff STATE OF NEW YORK brings this action on its own behalf and on
22 behalf of its environmental agency, the New York State Department of Environmental
23 Conservation (NYSDEC), to protect New York’s sovereign and proprietary interests, which
24 include ownership of all wildlife in the state, N.Y. Env’tl. Conserv. Law § 11-0105, and
25 numerous waterbodies, including without limitation: the land under the “marginal sea” to a line
26 three miles from the coast, the Great Lakes within the state’s territorial jurisdiction, Lake

1 Champlain and the St. Lawrence and Niagara Rivers, as well as the Hudson and Mohawk
 2 Rivers, Lake George, Cayuga Lake, Canandaigua Lake, Oneida Lake, and Keuka Lake. *See*
 3 *Town of N. Elba v. Grinditch*, 98 A.D.3d 183, 188–89 (N.Y. App. Div. 3d Dep’t 2012). The
 4 state also owns approximately 4.8 million acres of park and forest lands, including more than
 5 2.8 million acres of “forever wild” forest preserve. N.Y. Const. art. XIV.

6 82. There are dozens of federally endangered or threatened species that reside in
 7 whole or in part within the State of New York and its waters. Examples include four sea
 8 turtles that can be found in New York waters—the loggerhead (*Caretta caretta*), green
 9 (*Chelonia mydas*), leatherback (*Dermochelys coriacea*) and Kemp’s Ridley (*Lepidochelys*
 10 *kempii*). New York hosts ten National Wildlife Refuges, home to federally protected species
 11 like the Piping Plover (*Charadrius melodus*), and dozens of other federal sites. Other species
 12 of concern include the endangered shortnose sturgeon (*Acipenser brevirostrum*), Atlantic
 13 sturgeon (*Acipenser oxyrinchus*), and the Northern long-eared bat (*Myotis septentrionalis*).
 14 Strong ESA protections both within its state borders and throughout each species’ range are
 15 fundamental to New York’s interests.

16 83. New York is home to nine primary and twenty-two auxiliary interstate
 17 highways, six international airports, and several federal military installations, including Fort
 18 Drum, the United States Military Academy at West Point, and the Watervliet Arsenal. New
 19 York is also home to the Western New York Nuclear Service Center, a program of the New
 20 York State Energy Research and Development Authority (NYSERDA), which owns, in trust
 21 for the People of the State of New York, a 3,300-acre former nuclear waste re-processing
 22 facility that is the subject of an ongoing joint lead agency supplemental environmental review
 23 of decommissioning activities under NEPA and state law.

24 84. New York state agencies and authorities, collectively, including without
 25 limitation the NYSDEC and NYSERDA, regularly engage or are presently engaged in the
 26 federal NEPA process. Federal agency activities and actions requiring federal permits that

1 affect New York’s coastal zone, water quality, wildlife, and cultural resources are subject to
 2 NEPA, and NEPA analysis is used to support state decision making. For example, where
 3 federal and state environmental reviews of a project are undertaken, the NYSDEC may rely on
 4 a NEPA EIS where it is sufficient for the agency to make findings under state law. Where no
 5 EIS is prepared under NEPA, the NEPA record developed to support a Finding of No
 6 Significant Impact may inform the record for analysis under state law. And where state
 7 environmental review may be preempted, New York agencies such as NYSDEC may use
 8 NEPA analysis to support their decisions, such as water quality certifications.

9 85. Plaintiff STATE OF NORTH CAROLINA brings this action by and through
 10 Attorney General Joshua H. Stein. The North Carolina Attorney General is the chief legal
 11 officer of the State of North Carolina. The Attorney General is empowered to appear for the
 12 State of North Carolina “in any cause or matter ... in which the state may be a party or
 13 interested.” N.C. Gen. Stat. § 114-2(1). Moreover, the Attorney General is authorized to bring
 14 actions on behalf of the citizens of the state in “all matters affecting the public interest.” *Id.*
 15 § 114-2(8)(a).

16 86. North Carolina has a sovereign and propriety interest in protecting its state
 17 resources through careful environmental review at both the state and federal level. It is the
 18 constitutional policy of North Carolina to conserve and protect its lands and waters for the
 19 benefit of all its citizenry. N.C. Const. Art. XIV, § 5. Under North Carolina law, “the marine
 20 and estuarine and wildlife resources of North Carolina belong to the people of the state as a
 21 whole.” N.C. Gen. Stat. § 113-131(a). Furthermore, North Carolina’s General Assembly has
 22 declared that it is the policy of the State of North Carolina to “encourage the wise, productive,
 23 and beneficial use of the natural resources of the State without damage to the environment,”
 24 and to “maintain a healthy and pleasant environment, and preserve the natural beauty of the
 25 State.” *Id.* § 113A-3.
 26

1 87. North Carolina contains over two million acres of federally-owned lands,
 2 including lands managed by the U.S. Forest Service, FWS, National Park Service, and
 3 Department of Defense. North Carolina has ten national parks and forty-one state parks.
 4 North Carolina is home to thirty-nine animal and twenty-seven plant species that have been
 5 listed as endangered or threatened by the FWS, including the endangered Red-cockaded
 6 woodpecker (*Picoides borealis*), Carolina northern flying squirrel (*Glaucmys sabrinus*
 7 *coloratus*), and Leatherback sea turtle (*Dermochelys coriacea*).

8 88. North Carolina agencies regularly engage in the federal NEPA process as
 9 cooperating and commenting agencies or as agencies with special expertise highlighting
 10 potential impacts to the state's natural resources and public health.

11 89. Plaintiff STATE OF OREGON brings this suit by and through Attorney
 12 General Ellen Rosenblum. The Oregon Attorney General is the chief legal officer of the State
 13 of Oregon. The Attorney General's duties include acting in federal court on matters of public
 14 concern and upon request by any state officer when, in the discretion of the Attorney General,
 15 the action may be necessary or advisable to protect the Oregon's interests. Or. Rev. Stat.
 16 § 180.060(1).

17 90. The State of Oregon has a sovereign interest in its natural resources and is the
 18 sovereign owner of the state's fish and wildlife. Under Oregon law, "[w]ildlife is the property
 19 of the State." *Id.* § 498.002. The State of Oregon has enacted numerous laws and rules
 20 concerning the conservation and protection of the natural resources of the state. *See, e.g.,*
 21 Oregon Endangered Species Act, Or. Rev. Stat. §§ 496.171–.192, 498.026; Fish and Wildlife
 22 Habitat Mitigation Policy, Or. Admin. R. 635-415-0000 (creating "goals and standards to
 23 mitigate impacts to fish and wildlife habitat caused by land and water development actions");
 24 Or. Admin. R. 660-15-0000(5) ("[l]ocal governments shall adopt programs that will protect
 25 natural resources"). Oregon State has sixty-six federally listed species (including plants and
 26 invertebrates). These listed species include upper Columbia River steelhead (*Oncorhynchus*

1 mykiss), upper Willamette River chinook salmon (*Oncorhynchus tshawytscha*), the marbled
2 murrelet (*Brachyramphus marmoratus*), and the Oregon spotted frog (*Rana pretiosa*). Oregon
3 also lists thirty species as state endangered or threatened species and expends significant
4 resources to protect and recover these species, some of which (for example, the California
5 brown pelican) are not federally protected.

6 91. Natural resources are the source of substantial economic activity in Oregon.
7 More than \$2.6 billion annually is spent in Oregon by residents and visitors on trips and
8 equipment for wildlife-watching, fishing, and hunting. The state also owns at least 1.775
9 million acres of land, including land managed by the Department of Forestry and the
10 Department of State Lands. (That figure generally excludes state-owned waterbodies and
11 rights of way.) Revenue from the 780,000 acres of land managed by the Department of State
12 Lands is placed in the Common School Fund, which generates tens of millions of dollars
13 annually for Oregon public schools.

14 92. More than half of Oregon's land area is owned by the federal government.
15 BLM manages over fifteen million acres in Oregon. The U.S. Forest Service also manages
16 over fifteen million acres (across eleven national forests). Oregon has eighteen national
17 wildlife refuges and Crater Lake National Park. Oregon has three primary and three auxiliary
18 interstate highways. Many Oregon resources, such as the Common School Trust Lands and
19 navigable waters, are ecologically connected to federal lands. Oregon's fish and wildlife
20 resources also rely on federal lands and waters.

21 93. Oregon state agencies, including the Department of Fish and Wildlife, the
22 Department of Transportation, the Department of State Lands, and the Oregon Department of
23 Parks and Recreation, regularly engage in the federal NEPA process as cooperating and
24 commenting agencies or as agencies with special expertise highlighting potential impacts to the
25 state's natural resources and public health.
26

1 94. Plaintiff STATE OF RHODE ISLAND is a sovereign entity and brings this
2 action to protect its sovereign and proprietary rights. The Attorney General is the chief legal
3 advisor to the State of Rhode Island, and his powers and duties include acting in federal court
4 on matters of public concern. This challenge is brought pursuant to the Attorney General's
5 statutory and common law authority to bring suit and obtain relief on behalf of Rhode Island.

6 95. Rhode Island has a sovereign and propriety interest in protecting its state
7 resources through careful environmental review at both the state and federal level. Rhode
8 Island has a statutory responsibility to conserve, enhance, and properly utilize the state's
9 natural resources. R.I. Gen. Laws § 10-20-1; *see also* R.I. Const. art. I, § 17. Although Rhode
10 Island is the smallest state in land size, forests cover fifty-nine percent of its land area, with a
11 total of 393,000 acres. It also has thousands of miles of freshwater streams, rivers, and lakes.
12 Rhode Island lists over twenty-five species as endangered species and expends significant
13 resources to protect and recover these species, some of which are not federally protected.
14 Rhode Island's natural resources generate millions of dollars in annual financial benefits to
15 state public schools, institutions, and municipal services. They also generate millions of
16 dollars' worth of ecosystem services to surrounding communities by filtering drinking water,
17 purifying air, and providing space for recreation. Rhode Island's natural areas generate
18 commercial and recreational opportunities that put hundreds of millions of dollars into the
19 Rhode Island economy annually.

20 96. Rhode Island has over 400 miles of coastline and thousands of acres of federal
21 lands across three National Park Service affiliated sites, five national wildlife refuges,
22 numerous national monuments and historic sites, and numerous Department of Defense
23 locations, including Naval Station Newport and the Quonset Point Air National Guard Station.
24 Many of these federal lands abut Rhode Island's state-owned lands. Rhode Island is also home
25 to two interstate highways and one international airport. Federal agencies, including the U.S.
26 Navy and the Coast Guard, also routinely engage in activities in Rhode Island's coastal waters.

1 Major Federal actions concerning these lands, waters, projects, highways, airports, and other
2 federal facilities are subject to NEPA.

3 97. Rhode Island state agencies, including the Department of Environmental
4 Management and the Coastal Resources Management Council (CRMC), the Department of
5 Transportation, and the Department of Health regularly engage in the federal NEPA process as
6 cooperating and commenting agencies or as agencies with special expertise highlighting
7 potential impacts to the state's natural resources and public health. For example, CRMC and
8 the federal Bureau of Offshore Energy Management jointly worked on the NEPA process to
9 design the installation of a new offshore wind energy project, where rigorous environmental
10 review and meaningful public engagement led to a selected alternative that worked for state
11 and federal agencies, local governments, tribes, and the public, including the commercial
12 fishing industry. Federal agency activities and actions requiring federal permits that affect
13 Rhode Island's coastal zone, water quality, wildlife, and cultural resources are subject to
14 NEPA and are also reviewed by state agencies for consistency and compliance with Rhode
15 Island's laws and programs. In some situations, NEPA is the sole means for state agencies to
16 advocate for protection of Rhode Island's resources, including protection of state listed species
17 and other species of concern and their habitat, and to identify unintended consequences of a
18 proposed action.

19 98. Plaintiff STATE OF VERMONT is a sovereign state in the United States of
20 America. The State of Vermont brings this action through Attorney General Thomas J.
21 Donovan, Jr. The Attorney General is authorized to represent the state in civil suits involving
22 the state's interests, when, in his judgment, the interests of the state so require. 3 V.S.A. Ch. 7.

23 99. Vermont brings this action to protect its sovereign and proprietary interests,
24 including its interests in natural resources and infrastructure. The state has ownership,
25 jurisdiction, and control of all wildlife of the state as trustee for the state's citizens. 10 V.S.A.
26 § 4081(a)(1). Vermont has eleven federally listed species, including the Canada Lynx (*Lynx*

1 *canadensis*) and Eastern Mountain Lion (*Puma concolor*). Vermont also lists 215 state-
 2 endangered and threatened species, which are protected under 10 V.S.A. §§ 5401-5410.

3 100. The state is also trustee for navigable waters, lakes, ponds, and groundwater
 4 located within the state. *Id.* §§ 1390(5), 1421; 29 V.S.A. § 401. Vermont owns, manages and
 5 maintains numerous state forests, parks, and wildlife management areas; buildings and other
 6 infrastructure, including dams, roads, bridges, airports; and railroad, public transportation,
 7 bicycle, and pedestrian facilities. Significant state-owned infrastructure is located in river
 8 valleys and is susceptible to damage or destruction by flooding caused by severe rainstorms,
 9 the severity and frequency of which is being exacerbated by climate change.

10 101. The federal government owns nearly half a million acres of land in Vermont,
 11 comprising about eight percent of the state's total land area. These lands include
 12 approximately 400,000 acres within the Green Mountain National Forest. Located within a
 13 day's drive of seventy million people, the national forest is important to Vermont's economy,
 14 drawing three to four million visitors to Vermont each year for outdoor recreation, and
 15 provides habitat for rare and unique plants, fish, and birds. Federally owned and managed
 16 lands in Vermont also include the Marsh Billings National Historic Park, the Silvia O. Conte
 17 National Fish and Wildlife Refuge, the Missiquoi National Wildlife Refuge, and approximately
 18 150 miles of the Appalachian Trail. Vermont is also home to National Guard installations,
 19 including the Vermont Air National Guard Base in South Burlington, at which F-35 fighter jets
 20 are based. Low-income residents of surrounding communities are disproportionately impacted
 21 by high noise levels from F-35 training runs. Two major interstate highways and numerous
 22 federal aid highways pass through Vermont. The federal government also issues permits and
 23 provides grants and loans for various activities within the state, including Federal Emergency
 24 Management Administration disaster assistance grants for rehabilitation and improvement of
 25 state infrastructure. Federal actions concerning these and other federal lands, facilities and
 26 programs are subject to NEPA.

102. Vermont state agencies, including the Vermont Agency of Transportation and Vermont Agency of Natural Resources, regularly participate in federal NEPA proceedings to protect the State's interests.

103. Plaintiff STATE OF WISCONSIN is a sovereign state of the United States of America and brings this action by and through its Attorney General, Joshua L. Kaul, who is the chief legal officer of the State of Wisconsin and has the authority to file civil actions to protect Wisconsin's rights and interests. *See* Wis. Stat. § 165.25(1m). The Attorney General's powers and duties include appearing for and representing the state, on the governor's request, "in any court or before any officer, any cause or matter, civil or criminal, in which the state or the people of this state may be interested." *Id.* § 165.25(1m).

104. The State of Wisconsin has a sovereign interest in its natural resources and in ensuring the protection and conservation of those resources. The State of Wisconsin holds legal title to and is the custodian of all wild animals within Wisconsin and regulates them for conservation and use and enjoyment by the public. *Id.* § 29.011. The State of Wisconsin holds title to the navigable waters of the state in trust for the public and has a duty to protect and preserve those waters for the public for fishing, hunting, recreation, and enjoyment of scenic beauty. Wis. Const. art. IX, § 1; *Wis.'s Envtl. Decade, Inc. v. Dep't of Nat. Res.*, 85 Wis. 2d 518, 526 (1978). The State of Wisconsin has a sovereign interest in protecting its state resources through careful environmental review at both the state and federal level.

105. Wisconsin is home to the Chequamegon-Nicolet National Forest, the Apostle Islands National Lakeshore, the Ice Age National Scenic Trail, the North Country National Scenic Trail, the Saint Croix National Scenic Riverway, nine federal wildlife refuges and wetland management districts, several Department of Defense facilities including Fort McCoy, five primary interstate highways and additional auxiliary federal highways, and several international airports. Major Federal actions concerning these lands, waters, projects, highways, airports, and other federal facilities are subject to NEPA.

106. Wisconsin has twenty-four federally listed species, including the Northern long-eared bat (*Myotis septentrionalis*), Kirtland's warbler (*Setophaga kirtlandii*), Piping plover (*Charadrius melodus*), Karner blue butterfly (*Lycaeides melissa samuelis*), rusty patched bumble bee (*Bombus affinis*), and Fassett's locoweed (*Oxytropis campestris* var. *chartaceae*). Wisconsin is home to substantial portions of the global population of the endangered Karner blue butterfly and endangered rusty patched bumble bee. The endangered Kirtland's warbler is only found in Michigan and Wisconsin. The variety of the threatened Fassett's locoweed in Wisconsin is found nowhere else in the world.

107. Wisconsin state agencies, including the Wisconsin Department of Natural Resources (WDNR), regularly engage in federal NEPA processes to protect the state's interest in public health, environmental quality, and state natural resources. These agencies have participated in the NEPA process as commenting and cooperating agencies. For example, the WDNR recently provided comments on an environmental assessment prepared by the U.S. Army Corps of Engineers on the placement of dredged material in the upper Mississippi River and on an environmental impact statement prepared by the U.S. Airforce on the addition of F-35 fighter jets at the 115th Fighter Wing National Guard base in Madison, Wisconsin. The WDNR is also serving as a cooperating agency for an environmental assessment with the National Park Service for a new segment of the Ice Age National Scenic Trail and for an environmental impact statement on a proposed bridge corridor over the Fox River in Brown County, Wisconsin.

108. Plaintiff COMMONWEALTH OF MASSACHUSETTS brings this action by and through Attorney General Maura Healey, the chief legal officer of the Commonwealth, on behalf of the Commonwealth and its residents. The Commonwealth has both sovereign and proprietary interests in the conservation and protection of its natural resources and the environment through comprehensive environmental review at both the state and federal level. *See* Mass. Const. Amend. art. 97; Mass. Gen. Laws, ch. 12, §§ 3, 11D.

1 109. Federal agencies regularly undertake major actions subject to NEPA throughout
2 Massachusetts, including operating federal land and facilities and permitting, licensing, and
3 funding projects that affect the Commonwealth's natural resources. Massachusetts is home to
4 fifteen national parks, five national heritage areas, four wild and scenic rivers, and three
5 national trails managed by the National Park Service and other federal agencies, including the
6 Cape Cod National Seashore, which spans nearly forty miles of coastal land along the eastern
7 shore of Cape Cod. Six Department of Defense military bases, five interstate highways, eight
8 auxiliary interstate highways, two nuclear legacy management sites, one international airport,
9 approximately 1,000 miles of interstate transmission pipelines, and one international liquid
10 natural gas terminal are located in Massachusetts. Numerous federal agencies operate, license,
11 or permit activities in Massachusetts waterways and off Massachusetts's more than 1,500 miles
12 of coastline, impacting Massachusetts fisheries, other valuable resources, and maritime uses,
13 which are critical to the health and economic vitality of the Commonwealth.

14 110. At least seventeen federally listed and protected endangered or threatened
15 species are known to occur in Massachusetts, including, for example, the threatened piping
16 plover (*Charadrius melodus*) and northern long-eared bat (*Myotis septentrionalis*), and the
17 endangered shortnose sturgeon (*Acipenser brevirostrum*) and leatherback sea turtle
18 (*Dermochelys coriacea*).

19 111. Massachusetts agencies, including the Massachusetts Executive Office of
20 Energy and Environmental Affairs and its Department of Environmental Protection, Office of
21 Coastal Zone Management, and Division of Fisheries and Wildlife, as well as the
22 Massachusetts Department of Transportation and the Massachusetts Port Authority, engage in
23 the federal NEPA process as coordinating, cooperating, and commenting agencies with
24 specialized expertise to protect the state's interest in public health, environmental quality, and
25 state natural resources. For example, following extensive community involvement and
26 collaboration between multiple state and federal agencies and the two impacted towns during

1 coordinated review under NEPA and the Massachusetts Environmental Policy Act (MEPA),
 2 Mass. Gen. Laws, ch. 30, §§ 61–62I, the National Park Service adopted an alternative plan for
 3 the Herring River Restoration on Cape Cod that will restore at least 346 acres of tidal marsh,
 4 protect fish species harmed by existing impeded and degraded river conditions, and improve
 5 fishing and shellfishing yields, among other significant benefits to the community and the
 6 environment. The pending coordinated NEPA and MEPA process for the I-90 Allston
 7 highway project also has helped to convene a wide range of state and federal agencies and
 8 stakeholder groups to explore and assess alternatives that minimize impacts to important
 9 natural resources in and along the Charles River.

10 112. Massachusetts state agencies also review federal agency actions subject to
 11 NEPA, including permits, that affect Massachusetts’s natural resources for consistency and
 12 compliance with Massachusetts laws and policies. *See, e.g.*, 301 Mass. Code Regs. § 20.04
 13 (procedures for consistency determinations under Federal Coastal Zone Management Act,
 14 16 U.S.C. § 1456).

15 113. Plaintiff COMMONWEALTH OF PENNSYLVANIA brings this action by and
 16 through Attorney General Josh Shapiro. The Attorney General is the chief law officer of the
 17 Commonwealth of Pennsylvania and has authority to represent the Commonwealth and all
 18 Commonwealth agencies in any civil action brought by the Commonwealth. Pa. Const. art. IV,
 19 § 4; *Cmwltth. Attorneys Act*, 71 P.S. § 732-204(c). The Commonwealth brings this action on its
 20 own behalf.

21 114. This action is brought pursuant to the Commonwealth’s sovereign interests and
 22 its trustee obligations to protect Pennsylvania’s public natural resources from degradation. The
 23 Commonwealth of Pennsylvania has a sovereign interest in its public natural resources, which
 24 are the common property of all the people, including generations yet to come. Pa. Const. art. I,
 25 § 27. The Pennsylvania Constitution protects every Pennsylvanian’s “right to clean air, pure
 26 water, and to the preservation of the natural, scenic, historic and esthetic values of the

1 environment.” *Id.*, § 27. The Commonwealth, as trustee, must conserve and maintain public
 2 natural resources for the benefit of all the people. *Robinson Twp. v. Pennsylvania*, 83 A.3d
 3 901, 955–956 (Pa. 2013).

4 115. Pennsylvania’s public natural resources include 83,184 miles of streams and
 5 rivers in the Ohio, Genesee, Potomac, Susquehanna, Lake Erie and Delaware River
 6 watersheds, more than 4,000 lakes, reservoirs and ponds, 120 miles of coastal waters in the
 7 Lake Erie and Delaware Estuary coastal zones and abundant groundwater resources.
 8 Pennsylvania’s state forest system comprises 2.2 million acres of forestland in forty-eight of
 9 Pennsylvania’s sixty-seven counties. Pennsylvania has nineteen federally listed and protected
 10 endangered or threatened species are known to occur in Pennsylvania, including the
 11 endangered rusty patched bumble bee (*Bombus affinis*) and Piping plover (*Charadrius*
 12 *melodus*) and the threatened northern long-eared bat (*Myotis septentrionalis*).

13 116. Federal actions and activities that propose impacts to the Commonwealth’s
 14 public natural resources are subject to NEPA. Commonwealth agencies review these actions to
 15 ensure the Commonwealth’s public natural resources are protected. Pennsylvania agencies,
 16 including without limit the Department of Environmental Protection, the Department of
 17 Conservation and Natural Resources, and the Department of Transportation, engage in the
 18 federal NEPA process. Pennsylvania is home to large-scale pipeline projects subject to NEPA.
 19 Commonwealth agencies closely review and comment on these NEPA analyses and utilize
 20 these analyses to support state decision making. Also, Pennsylvania is home to several federal
 21 military installations, including those located at the Harrisburg International Airport, the U.S.
 22 Army War College and Carlisle Barracks Army Base, New Cumberland Army Depot,
 23 Letterkenny Army Depot, the Mechanicsburg Naval Depot, and the Willow Grove Naval Air
 24 Station Joint Reserve Base. Commonwealth agencies review the actions at these facilities to
 25 ensure the Commonwealth’s public natural resources are protected.
 26

1 117. Plaintiff TERRITORY OF GUAM brings this action by and through Attorney
2 General Leevin Taitano Camacho. The Attorney General is the chief legal officer of the
3 Government of Guam. 48 U.S.C. § 1421g(d)(1). This challenge is brought pursuant to the
4 Attorney General's statutory and common law authority to bring an action on behalf of Guam.
5 5 GCA § 30103.

6 118. Guam has a sovereign interest in its natural resources, which run two hundred
7 nautical miles seaward from its low-water line. Guam is the sovereign and proprietary owner
8 of all surface water and ground water within its territory, which it holds in trust for the people
9 of Guam, 12 GCA § 14505, and has a statutory responsibility to conserve, enhance, and
10 properly utilize its natural resources. 5 GCA § 63502.

11 119. Guam is home to numerous listed threatened and endangered species and their
12 designated critical habitats. These species and habitats include the Mariana Fruit Bat
13 (*Pteropus mariannus*), Hayun Lagu (*Serianthes nelsonii*), the largest native tree in the Mariana
14 Islands, and the Guam Rail or the Ko'ko' bird (*Gallirallus owstoni*), which is native to Guam
15 and found nowhere else in the world.

16 120. The United States Department of Defense has over fifty military installations in
17 Guam and controls over twenty-five percent of the island. Federal agencies, including the
18 United States Army, Air Force, Navy, Marine Corps, and the Coast Guard, routinely engage in
19 military exercises in Guam. These exercises, along with other major Federal actions
20 concerning Guam's land, water, and air, are subject to NEPA.

21 121. Over the last decade, there have been several federal actions proposed primarily
22 by the Department of Defense in the Marianas, which have had significant environmental
23 impacts on Guam, including the destruction of hundreds of acres of limestone forest that serve
24 as a habitat for numerous endangered species and the planned construction and operation of a
25 live-fire training range complex over Guam's aquifer. These projects include the Guam and
26 CNMI Military Relocation Environmental Impact Statement and Supplemental EIS, the

1 Marianas Islands Range Complex EIS, the Mariana Islands Training and Testing EIS, and the
 2 Divert Activities and Exercises EIS. Guam agencies, including the Guam Bureau of Statistics
 3 and Plans, Guam Environmental Protection Agency, Guam Waterworks Authority, Guam
 4 Department of Agriculture and Guam Department of Public Health and Social Services have
 5 and continue to engage in the federal NEPA process to protect Guam's interest in public
 6 health, environmental quality, and natural resources.

7 122. Plaintiff DISTRICT OF COLUMBIA (the District) is a municipal corporation
 8 and is the local government for the territory constituting the permanent seat of government of
 9 the United States. The District is represented by and through its chief legal officer the
 10 Attorney General for the District of Columbia. The Attorney General has general charge and
 11 conduct of all legal business of the District and all suits initiated by and against the District and
 12 is responsible for upholding the public interest. D.C. Code § 1-301.81(a)(1).

13 123. As the seat of the nation's capital, the District is uniquely impacted by
 14 environmental review on federal actions and projects. The federal government owns one-third
 15 of the land in the District, eighty-five percent of the District's shoreline, and owns the riverbed
 16 of the District's two major rivers, the Potomac and Anacostia. Almost ninety percent of the
 17 city's parkland—more than 6,900 acres including Rock Creek Park, the National Mall,
 18 Anacostia Park and the Fort Circle Parks—is part of the National Park System. With the
 19 federal government owning or managing federal offices, land, and water resources in the
 20 District of Columbia, federal government decisions relating to the environmental impact of
 21 projects related to these buildings, land, and resources substantially impacts the District's
 22 environment and the public health of its residents.

23 124. The District is home to one federally listed species, the Hay's Spring Amphipod
 24 (*Stygobromus hayi*), which is a small, shrimp-like freshwater crustacean that exists only in five
 25 springs, all along Rock Creek Park.
 26

1 125. Under the District's Environmental Policy Act and its implementing
2 regulations, District agencies evaluate environmental impacts through review and analysis of
3 environmental impact screening forms. This review determines whether the District is to
4 perform an environmental impact statement because a major action is likely to have substantial
5 negative impact on the environment, if implemented. However, this analysis is not required
6 when an environmental analysis has been performed in accordance with NEPA. Thus, when a
7 federal agency does not perform an environmental review under NEPA, the District will
8 perform the analysis to ensure that negative environmental and public health impacts are
9 mitigated.

10 126. Plaintiff HARRIS COUNTY, TEXAS is a local subdivision of the State of
11 Texas. Harris County brings this action to protect its citizens and governmental and
12 proprietary interests, which include parks and greenway spaces. Harris County is represented
13 by the Harris County Attorney, an elected official and chief legal officer for Harris
14 County. Harris County is the third largest county in the United States, home to more than four
15 million residents spread over 1,777 square miles, and is the energy capital of the world.

16 127. Harris County is often impacted by federal actions subject to NEPA review and
17 has submitted comments and participated in the NEPA process on a range of matters including
18 the Keystone XL Pipeline and the Texas Coastal Study.

19 128. Plaintiff CITY OF NEW YORK, a municipal subdivision of the State of New
20 York, brings this action on its own behalf to protect its governmental and proprietary interests,
21 which include more than 30,000 acres of parks and beaches, 2.6 million trees, 520 linear miles
22 of waterfront property, and the nation's largest unfiltered water supply system with a
23 watershed of over one million acres, which provides more than one billion gallons of drinking
24 water daily from nineteen reservoirs to more than nine million residents of the City and State
25 of New York.
26

129. Federally funded or permitted actions that affect New York City's environment are subject to the federal NEPA environmental review process. New York City agencies and authorities regularly rely on NEPA analyses to support local decision making. In particular, pursuant to the New York State Environmental Quality Review Act (SEQRA) and New York City Environmental Quality Review (CEQR) regulations, city agencies may rely on a federal EIS if it is sufficient for the City agency to make its findings under SEQRA/CEQR. Similarly, a federal Environmental Assessment/Finding of No Significant Impact may serve as the basis for a city agency to issue a negative declaration under SEQRA/CEQR. In addition, the New York City Department of Housing Preservation and New York City Mayor's Office of Management and Budget have assumed NEPA responsibilities from the U.S. Department of Housing and Urban Development (HUD) when utilizing HUD's housing grant programs and managing allocations of HUD's Community Development Block Grant Disaster Recovery and National Disaster Resilience programs, and are thus responsible for complying with HUD's NEPA regulations that will be revised under the Final Rule.

B. Defendants

130. Defendant CEQ is an agency of the federal government created by NEPA. CEQ is responsible for guiding NEPA's implementation and bears responsibility, in whole or in part, for the acts complained of in this Complaint.

131. Defendant Mary B. Neumayr is the Chairman of CEQ and is sued in her official capacity. Ms. Neumayr is the official responsible for implementing and fulfilling CEQ's duties, including promulgating the Final Rule, and bears responsibility, in whole or in part, for the acts complained of in this Complaint.

V. STATUTORY AND REGULATORY BACKGROUND

A. Administrative Procedure Act

132. The APA, 5 U.S.C. §§ 551–559 and 701–706, governs the procedural requirements for federal agency decision making, including the agency rulemaking process.

1 Under the APA, a “reviewing court shall ... hold unlawful and set aside” federal agency action
 2 found to be “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with
 3 law,” “without observance of procedure required by law,” or “in excess of statutory
 4 jurisdiction, authority, or limitations, or short of statutory right.” *Id.* § 706(2). An agency
 5 action is arbitrary and capricious under the APA where “the agency has relied on factors which
 6 Congress has not intended it to consider, entirely failed to consider an important aspect of the
 7 problem, offered an explanation for its decision that runs counter to the evidence before the
 8 agency, or is so implausible that it could not be ascribed to a difference in view or the product
 9 of agency expertise.” *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins.*
 10 *Co.*, 463 U.S. 29, 43 (1983) (*State Farm*). An agency does not have authority to adopt a
 11 regulation that is “plainly contrary to the statute.” *United States v. Morton*, 467 U.S. 822, 833
 12 (1984); *see also* 5 U.S.C. § 706(2)(C).

13 133. “Agencies are free to change their existing policies,” but they must “provide a
 14 reasoned explanation for the change.” *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117,
 15 2125 (2016) (citing *Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967,
 16 981–82 (2005)); *see also Dep’t of Homeland Sec. v. Regents of the Univ. of Cal.*,
 17 140 S. Ct. 1891, 1913 (2020) (“when an agency rescinds a prior policy its reasoned analysis
 18 must consider the ‘alterative[s]’ that are within the ambit of the existing [policy]”) (citations
 19 omitted). An agency must “provide a more detailed justification than what would suffice for a
 20 new policy created on a blank slate” when “its new policy rests upon factual findings that
 21 contradict those which underlay its prior policy,” “or when its prior policy has engendered
 22 serious reliance interests that must be taken into account.” *FCC v. Fox Television Stations,*
 23 *Inc.*, 556 U.S. 502, 515 (2009).

24 134. Prior to promulgating a rule, agencies must engage in a public notice-and-
 25 comment process. 5 U.S.C. §§ 551(5), 553. Agencies must afford public notice of specific
 26 regulatory changes and their reasoned basis to provide the public an opportunity for

1 meaningful comment, *Home Box Office, Inc. v. FCC*, 567 F.2d 9, 35–36 (D.C. Cir. 1977),
 2 including the “technical studies and data that [the agency] has employed in reaching the
 3 decision[] to propose particular rules.” *Kern Cty. Farm Bureau v. Allen*, 450 F.3d 1072, 1076
 4 (9th Cir. 2006). The agency must consider and respond to all significant comments it receives.
 5 *Perez v. Mortg. Bankers Ass’n*, 575 U.S. 92, 96 (2015).

6 **B. National Environmental Policy Act**

7 135. NEPA is often referred to as the “Magna Carta” of U.S. environmental law.
 8 *See Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 193 (D.C. Cir. 1991).

9 136. Congress developed NEPA at a time of heightened awareness and growing
 10 concern about the environment, amid a series of high-profile environmental crises in the late
 11 1960s. The national perspective was shifting from “preoccupation with the extraction of
 12 natural resources to the more compelling problems of deterioration in natural systems of air,
 13 land, and water.” S. Comm. on Interior & Insular Affairs and H.R. Comm. on Science and
 14 Astronautics, 90th Congress, *Congressional White Paper on a National Policy for the*
 15 *Environment*, at 1 (Oct. 1968).

16 137. Congress recognized that “[o]ur national resources—our air, water, and land—
 17 are not unlimited,” and as a country, “[w]e no longer have the margins for error that we once
 18 enjoyed.” S. Rep. No. 91-296, at 5 (1969). A comprehensive national environmental policy
 19 would disrupt the current practice of establishing policy “by default and inaction” where
 20 “[e]nvironmental problems are only dealt with when they reach crisis proportions. Public
 21 desires and aspirations are seldom consulted. Important decisions concerning the use and the
 22 shape of [humans’] future environment continue to be made in small but steady increments
 23 which perpetuate rather than avoid the recognized mistakes of previous decades.” *Id.*

24 138. NEPA thus declares an overarching national policy to “use all practicable
 25 means and measures ... to foster and promote the general welfare, to create and maintain
 26 conditions under which man and nature can exist in productive harmony, and fulfill the social,

1 economic and other requirements of present and future generations of Americans.” 42 U.S.C.
2 § 4331(a).

3 139. Cooperation with states and local governments and other concerned public and
4 private organizations is an essential component of this policy. *Id.* §§ 4331(a), 4332(G).

5 140. NEPA further emphasizes that in carrying out these policies, the federal
6 government has a continuing responsibility “to use all practicable means ... to improve and
7 coordinate Federal plans, functions, programs, and resources to the end that the Nation may,”
8 among other things “fulfill the responsibilities of each generation as trustee of the environment
9 for succeeding generations,” “assure for all Americans safe, healthful, productive, and
10 esthetically and culturally pleasing surroundings,” and “attain the widest range of beneficial
11 uses of the environment without degradation, risk to health or safety, or other undesirable and
12 unintended consequences.” *Id.* § 4331(b).

13 141. To ensure that these policies are “integrated into the very process of agency
14 decision making,” NEPA outlines “action-forcing” procedures, *Andrus*, 442 U.S. at 349–50,
15 that require federal agencies “to the fullest extent possible,” to prepare a detailed
16 environmental review or EIS for legislation or other “major Federal actions significantly
17 affecting the quality of the human environment.” *Id.* §§ 4332, 4332(2)(C).

18 142. An EIS must evaluate, among other things, all of the environmental impacts of
19 the proposed federal action, any adverse and unavoidable environmental effects, alternatives to
20 the proposed action, the relationship between local short-term uses of the environment and the
21 maintenance and enhancement of long-term productivity, and any irreversible and irretrievable
22 commitment of resources involved in the proposed action. *Id.* § 4332(2)(C).

23 143. For proposed actions involving unresolved conflicts about alternative uses of
24 available resources, NEPA further directs that federal agencies should “study, develop, and
25 describe appropriate alternatives” to the proposed action. *Id.* § 4332(E).

26

1 144. NEPA also requires federal agencies to work in concert with states, local
 2 governments, institutions, organizations, and individuals by making available “advice and
 3 information useful in restoring, maintaining, and enhancing the quality of the environment.”
 4 42 U.S.C. § 4332(G).

5 145. In short, NEPA directs federal agencies to make well-informed and transparent
 6 decisions based on a thorough review of environmental and public health impacts and
 7 meaningful input from states, local governments, and the public.

8 146. In NEPA, Congress also created CEQ and directed it to appraise federal
 9 programs and activities in light of NEPA’s overarching policies: “to be conscious of and
 10 responsive to the scientific, economic, social, esthetic, and cultural needs and interests of the
 11 Nation; and to formulate and recommend national policies to promote the improvement of the
 12 quality of the environment.” *Id.* § 4342. CEQ has the statutory duty to take actions consistent
 13 with NEPA’s policies of environmental protection and informed decision making.

14 147. Many State Plaintiffs have adopted their own state environmental policy acts
 15 modeled on NEPA. These include the California Environmental Quality Act, Cal. Pub. Res.
 16 Code § 21000–21189.57, Washington’s State Environmental Policy Act, Wash. Rev. Code.
 17 ch. 43.21C, New York’s State Environmental Quality Review Act, N.Y. Env’tl. Conserv. L.
 18 art. 8; 6 N.Y. Comp. Codes R. & Regs. Part 617; the Massachusetts Environmental Policy Act,
 19 Mass. Gen. Laws, ch. 30, §§ 61–62I; and the District of Columbia’s Environmental Policy Act,
 20 D.C. Code § 8–109.01–109.12, and 20 D.C. Mun. Regs. § 7200–7299. These state statutes (or
 21 little NEPAs) require detailed environmental review for certain state agency and local
 22 government actions. Where an action subject to state environmental review also requires
 23 NEPA review, state and local agencies can often comply with little NEPAs by adopting or
 24 incorporating by reference certain environmental documents prepared under NEPA, but only if
 25 those NEPA documents meet state statutory requirements. *See, e.g.*, 6 N.Y. Comp. Codes R. &
 26 Regs. § 617.15; Mass. Gen. Laws, ch. 30, § 62G.

148. CEQ and several states worked together to harmonize the environmental review processes under NEPA and little NEPAs through state-specific memoranda. *See, e.g.*, CEQ, *States and Local Jurisdictions with NEPA-Like Environmental Planning Requirements*, <https://ceq.doe.gov/laws-regulations/states.html>. This collaboration has long allowed state, local, and federal agencies to share documents, reduce paperwork, and efficiently allocate limited time and resources. States rely on this collaboration and the effectiveness of federal NEPA documents under the 1978 regulations to allocate state resources and determine staffing needs.

C. Endangered Species Act

149. In 1973, Congress enacted the ESA, 16 U.S.C. §§ 1531–44, “to halt and reverse the trend toward extinction, whatever the cost.” *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 174 (1978). As such, the ESA sets forth “a program for the conservation of [] endangered species and threatened species” through, in part, conservation of the ecosystems upon which such species depend. 16 U.S.C. § 1531(b). The Services are the agencies responsible for listing endangered and threatened species and designating those species’ critical habitats. *Id.* §§ 1532(15), 1533(a); 50 C.F.R. §§ 17.11(a), 17.12(a). The listing of a species under the ESA is a last resort to conserve endangered or threatened species and the ecosystems on which they depend. The Services currently list over [insert number] species as endangered or threatened under the ESA. 50 C.F.R. §§ 17.11(a), 17.12(a).

150. Section 7 of the ESA codifies “an explicit congressional decision to require agencies to afford first priority to the declared national policy of saving endangered species,” elevating concern for the protection of such species “over the primary missions of federal agencies.” *Tenn. Valley Auth. v. Hill*, 437 U.S. at 185 (internal quotation marks omitted). Pursuant to section 7, unless an exemption has been granted, each federal agency must, in consultation with one or both of the Services, “insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any

1 endangered species or threatened species or result in the destruction or adverse modification of
 2 habitat of such species[.]” 16 U.S.C. § 1536(a)(2). “The minimum threshold for an agency
 3 action to trigger consultation with FWS is low.” *W. Watersheds Project v. Kraayenbrink*, 632
 4 F.3d 472, 496 (9th Cir. 2011). Consultation is required if a prospective agency action may
 5 affect a listed species or designated critical habitat. *Id.*; 16 U.S.C. § 1536(a)(2); 50 C.F.R. §
 6 402.12(a). Formal consultation is required if the prospective agency action is likely to
 7 adversely affect a listed species or designated critical habitat. *Id.* § 1536(a)(2)–(3); 50 C.F.R.
 8 §§ 402.12(a), (k), 402.14(a)–(b).

9 151. During formal consultation, the acting federal agency is prohibited from
 10 “mak[ing] any irreversible or irretrievable commitment of resources with respect to the agency
 11 action which has the effect of foreclosing the formulation or implementation of any reasonable
 12 and prudent alternative measures[.]” 16 U.S.C. § 1536(d).

13 152. At the conclusion of the formal consultation period, the FWS or the NMFS
 14 provides the agency with a biological opinion including a determination as to whether the
 15 action is likely to “jeopardize the continued existence of a listed species or result in the
 16 destruction or adverse modification of critical habitat[.]” 16 U.S.C. § 1536(b)(1)(3)(A); 50
 17 C.F.R. § 402.14(g)–(h). If the FWS or the NMFS determines the proposed action is likely to
 18 result in jeopardy to a listed species or destruction or adverse modification of designated
 19 critical habitat, it will include “reasonable and prudent alternatives” to the agency action in the
 20 biological opinion. 50 C.F.R. § 402.14(h)(2).

21 153. If the federal agency wishes to proceed with a proposed action that is deemed
 22 likely to result in jeopardy or adverse modification, it must generally implement the Services’
 23 recommended “reasonable and prudent alternatives” and adopt other “reasonable and prudent
 24 measures” to ensure that the action “is not likely to jeopardize the continued existence of any
 25 endangered species or threatened species or result in the destruction or adverse modification of
 26

1 habitat of such species,” and to minimize the impact of such action on listed species and
 2 designated critical habitat. 16 U.S.C. §§ 1536(a)(2), 1536(b)(4); 50 C.F.R. § 402.15(a).

3 154. Section 7 differs in important respects from NEPA. As the Ninth Circuit has
 4 explained, “[s]ection 7 of the ESA and NEPA involve different processes that measure
 5 different kinds of environmental impacts.” *San Luis & Delta-Mendota Water Auth. v. Jewell*,
 6 747 F.3d 581, 651 (9th Cir. 2014); *see also Fund for Animals v. Hall*, 448 F.Supp.2d 127, 136
 7 (D.D.C. 2006). Indeed, while NEPA review concerns a broad array of impacts, the ESA is
 8 solely focused on impacts to listed species and designated critical habitat.

9 **D. CEQ’s 1978 NEPA Regulations**

10 155. In 1977, President Carter issued Executive Order 11,991 directing CEQ to issue
 11 regulations to guide federal agency implementation of NEPA. *Relating to Protection and*
 12 *Enhancement of Environmental Quality*, Exec. Order No. 11,991, 42 Fed. Reg. 26,967
 13 (May 24, 1977) (amending in part Executive Order No. 11,514).

14 156. Before proposing the implementing regulations, CEQ conducted extensive
 15 outreach, soliciting “the views of almost 12,000 private organizations, individuals, state and
 16 local agencies, and Federal agencies,” held public hearings, and considered studies of the
 17 environmental impact statement process. NEPA—Regulations, Implementation of Procedural
 18 Provisions, 43 Fed. Reg. 55,978, 55,980 (Nov. 29, 1978).

19 157. CEQ also prepared an environmental assessment (EA) of its proposed
 20 implementing regulations, in compliance with NEPA. Proposed Implementation of Procedural
 21 Provisions, 43 Fed. Reg. 25,230, 25,232 (May 31, 1978).

22 158. In 1978, CEQ finalized a comprehensive set of regulations implementing the
 23 “action-forcing” elements of NEPA “to tell federal agencies what they must do to comply with
 24 the procedures and achieve the goals of” the statute. 40 C.F.R. § 1500.1(a) (1978).

25 159. The 1978 regulations emphasize NEPA’s role as “our basic national charter for
 26 protection of the environment” and explained that “[t]he NEPA process is intended to help

1 public officials make decisions that are based on understanding of environmental
 2 consequences, and take actions that protect, restore, and enhance the environment.” *Id.*
 3 § 1500.1(c) (1978).

4 160. The 1978 regulations also emphasize transparency in government decision
 5 making by ensuring agencies provide information to the public before “decisions are made and
 6 before actions are taken.” *Id.* § 1500.1(b) (1978).

7 161. The 1978 regulations direct agencies to “[e]ncourage and facilitate public
 8 involvement in decisions which affect the quality of the human environment,” *id.* § 1500.2(d)
 9 (1978), allowing states, private organizations, and individuals to inform and influence agency
 10 decision making by commenting on proposed agency actions, *id.* § 1503.1(a)(4) (1978).

11 162. Until the promulgation of the Final Rule, CEQ’s 1978 regulations remained
 12 largely unchanged with the exception of two minor amendments. First, in 1986, CEQ removed
 13 a requirement that agencies analyze the extent of environmental impacts in a hypothetical
 14 “worst case scenario.” NEPA Regulations, Incomplete or Unavailable Information, 51 Fed.
 15 Reg. 15,618 (May 27, 1986) (amending 40 C.F.R. § 1502.22). CEQ prepared an EA for its
 16 substantive change to the regulations in 1986 and concluded that the amendment would not
 17 have a significant environmental impact. *Id.* at 15,619. Then in 2005, CEQ made a minor
 18 amendment to the EIS filing requirements. Other Requirements of NEPA, 70 Fed. Reg. 41,148
 19 (July 18, 2005).

20 163. CEQ has issued numerous guidance documents on NEPA and its 1978
 21 regulations on which states and other stakeholders have relied. *See e.g., Final Guidance for*
 22 *Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the*
 23 *Effects of Climate Change in National Environmental Policy Act Reviews*, 81 Fed. Reg. 51,866
 24 (Aug. 5, 2016), *withdrawn* 82 Fed. Reg. at 16,576 (Apr. 5, 2017); *Memorandum for Heads of*
 25 *Federal Departments and Agencies: Establishing, Applying, and Revising Categorical*
 26 *Exclusions under the National Environmental Policy Act* (Nov. 23, 2010); *A Citizen’s Guide to*

1 *the NEPA: Having Your Voice Heard* (Dec. 2007); *Forty Most Asked Questions Concerning*
 2 *CEQ's National Environmental Policy Act Regulations*, 46 Fed. Reg. 18,026 (Mar. 23, 1982).

3 164. Additionally, CEQ's Environmental Justice Guidance provides useful direction
 4 for agency consideration of environmental justice impacts during the NEPA review process.
 5 CEQ, *Environmental Justice: Guidance Under the National Environmental Policy Act*
 6 (Dec. 10, 1997). The Environmental Protection Agency (EPA) defines environmental justice
 7 as "the fair treatment and meaningful involvement of all people regardless of race, color,
 8 national origin, or income with respect to the development, implementation, and enforcement
 9 of environmental laws, regulations, and policies." EPA, Environmental Justice:
 10 <https://www.epa.gov/environmentaljustice>. CEQ's guidance builds on Executive Order
 11 12,898, which directs federal agencies to identify and address the disproportionately high and
 12 adverse human health or environmental effects of their actions on minority and low-income
 13 populations, to the greatest extent practicable and permitted by law. Exec. Order No. 12,898,
 14 59 Fed. Reg. 7,629 (1994) (as amended).

15 165. The Presidential Memorandum issued with Executive Order 12,898 further
 16 directs federal agencies to analyze under NEPA "the environmental effects, including human
 17 health, economic and social effects, of Federal actions, including effects on minority
 18 communities and low income communities" and to provide opportunities for community input
 19 in the NEPA process, including through "identifying potential effects and mitigation measures
 20 in consultation with affected communities" White House, *Memorandum for the Heads of*
 21 *All Departments and Agencies: Executive Order on Federal Action to Address Environmental*
 22 *Justice in Minority Populations and Low-Income Populations* (Feb. 11, 1994).

23 166. CEQ's Environmental Justice Guidance explains that agencies should consider
 24 environmental justice impacts as part of their obligation to consider "both impacts on the
 25 natural or physical environment and related social, cultural, and economic impacts." CEQ,
 26 *Environmental Justice*, at 8 (citing 40 C.F.R. § 1508.14). Agencies should consider these

1 impacts while analyzing the affected area, considering cumulative effects, and developing
 2 public participation strategies. *Id.* at 8–9. CEQ further explained that identification of
 3 disproportionately high and adverse human health or environmental effects on low-income,
 4 minority, or Tribal populations “should heighten agency attention to alternatives ..., mitigation
 5 strategies, monitoring needs, and preferences expressed by the affected community.” *Id.* at 10.

6 167. CEQ has also issued a number of studies documenting NEPA’s effectiveness.
 7 *See, e.g.,* CEQ, *National Environmental Policy Act: A Study of Its Effectiveness After Twenty-*
 8 *five Years* (Jan. 1997); NEPA Task Force, *Modernizing NEPA Implementation* (Sept. 2003);
 9 CEQ, *Examples of Benefits from the NEPA Process for ARRA Funded Activities* (May 2011).
 10 For example, in its NEPA Effectiveness Study, a twenty-five year review of NEPA’s
 11 implementation, CEQ emphasized that “NEPA is a success—it has made agencies take a hard
 12 look at the potential environmental consequences of their actions, and it has brought the public
 13 into the agency decision-making process like no other statute.” CEQ, *National Environmental*
 14 *Policy Act: A Study of Its Effectiveness After Twenty-five Years*, at iii (Jan. 1997).

15 168. The courts, including the Ninth Circuit, have developed a robust body of case
 16 law applying and interpreting NEPA and CEQ’s 1978 regulations, providing direction to
 17 agencies on how to comply with both CEQ’s regulations and the statute. *See, e.g., Robertson*
 18 *v. Methow Valley Citizens Council*, 490 U.S. 332, 351–52 (1989); *Kern v. Bureau of Land*
 19 *Mgmt.*, 284 F.3d 1062, 1075 (9th Cir. 2002); *Klamath-Siskiyou Wildlands Ctr. v. Bureau of*
 20 *Land Mgmt.*, 387 F.3d 989, 994 (9th Cir. 2004).

21 169. NEPA, the 1978 regulations, and CEQ’s subsequent guidance have promoted
 22 more environmentally protective and transparent agency decisions, while not imposing overly
 23 burdensome requirements. In 2014, the Government Accountability Office concluded that the
 24 NEPA process “ultimately saves time and reduces overall project costs by identifying and
 25 avoiding problems that may occur in later stages of project development.” U.S. Gov’t
 26 Account. Office, *National Environmental Policy Act: Little Information Exists on NEPA*

Analyses, 17 (Apr. 2014). Similarly, U.S. Forest Service officials have observed that “NEPA leads to better decisions.” *Id.*

E. The Proposed Rule

170. Despite the documented success of the 1978 regulations and reliance by states and the public on NEPA’s procedures to protect the environment and public health, CEQ released an Advance Notice of Proposed Rulemaking on June 20, 2018, announcing CEQ’s plan to overhaul the 1978 regulations and including a vague list of topics that the rulemaking might address. Update to the Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, 83 Fed. Reg. 28,591 (June 20, 2018) (Advance Notice). CEQ issued this proposal in response to President Trump’s Executive Order 13,807, which called for revisions to the NEPA regulations, purportedly to expedite infrastructure projects and boost the economy. Establishing Discipline and Accountability in the Environmental Review and Permitting Process, Exec. Order 13,807, 82 Fed. Reg. 40,463 (Aug. 15, 2017).

171. CEQ allowed only sixty days for public comment on the Advance Notice. Most State Plaintiffs submitted comments stating that CEQ had not demonstrated a need for substantial revisions and opposing any revisions that would threaten NEPA’s fundamental values of environmental protection and informed decision making.

172. On January 10, 2020, CEQ released its proposal to significantly revise the 1978 regulations. 85 Fed. Reg. 1,684 (Jan. 10, 2020).

173. The Proposed Rule included numerous revisions to the 1978 regulations that undermine NEPA’s environmental and informed decision making purposes. For example, the Proposed Rule included regulatory changes to remove numerous agency actions from NEPA’s reach, narrow the scope of environmental reviews that do occur, limit public participation, and restrict judicial review for those harmed by agency failure to comply with NEPA.

174. After publication of the Proposed Rule, CEQ again provided just sixty days for the public to review, analyze, and submit comments on this far-reaching overhaul of its

1 longstanding regulations, and hosted only two public hearings on the Proposed Rule.
2 Numerous commenters, including representatives from several State Plaintiffs, were not able to
3 reserve a spot to speak at the hearings due to a limited number of speaking slots. Although
4 CEQ received requests from State Plaintiffs, members of Congress, and others for more time to
5 comment and for additional public hearings on the complex and wide-ranging Proposed Rule,
6 CEQ closed the comment period without providing additional hearings or extending the
7 comment period.

8 175. Despite this short timeframe, interested parties submitted over 1.1 million
9 comments, the vast majority of which strongly opposed CEQ's Proposed Rule. Most State
10 Plaintiffs submitted detailed comments stating that CEQ's Proposed Rule was unlawful,
11 unreasonable, and unjustified and should be withdrawn. In addition to these comments, many
12 State Plaintiff elected officials and agencies submitted comments expressing concern about
13 CEQ's proposed changes and urging CEQ to withdraw the Proposed Rule. *See, e.g.*, Letter
14 from Washington State Governor Jay Inslee to Mary Neumayr, re Proposed Rule (Mar. 10,
15 2020) (enclosing comments from seven state agencies and offices opposing the Proposed
16 Rule); Letter from California Governor Gavin Newsom to Edward A. Boling, re Proposed Rule
17 (Mar. 10, 2020).

18 **F. The Final Rule**

19 176. Just four months after the close of the comment period, President Trump
20 announced the release of the Final Rule on July 15, 2020. The Final Rule was published in the
21 Federal Register the following day. The Final Rule largely adopts the Proposed Rule's
22 unlawful, unjustified, and sweeping revisions to the 1978 Regulations.

23 177. CEQ claimed that the Final Rule "advance[s] the original goals of the CEQ
24 regulations to reduce paperwork and delays and promote better decisions consistent with the
25 national environmental policy set forth in section 101 of NEPA," Final Rule, 85 Fed. Reg. at
26

1 43,306. But the Final Rule will do just the opposite—leading to increased confusion and
 2 litigation and decisions inconsistent with NEPA’s text and purpose.

3 178. The Final Rule makes substantial and unsupported revisions to the 1978
 4 regulations, ignores reliance interests on those longstanding regulations, lacks a rational
 5 justification, and undermines NEPA’s goals of environmental protection, public participation,
 6 and informed decision making. Among other things, the Final Rule arbitrarily and unlawfully:

7 a. Deletes language from the 1978 regulations directing federal agencies to
 8 comply with “the letter and spirit” of NEPA’s “action-forcing” provisions, *compare* 40 C.F.R.
 9 § 1500.1(a) (1978), *with* Final Rule, 85 Fed. Reg. at 43,358 (to be codified at § 1500.1(a));

10 b. Deletes language from the 1978 regulations stating that NEPA “is our
 11 basic national charter for protection of the environment” and that “[t]he NEPA process is
 12 intended to help public officials make decisions that are based on understanding of
 13 environmental consequences, and take actions that protect, restore, and enhance the
 14 environment,” *compare* 40 C.F.R. § 1500.1(a), (c) (1978), *with* Final Rule, 85 Fed. Reg. at
 15 43,357–58 (to be codified at § 1500.1);

16 c. Deletes language from the 1978 regulations that federal agencies should
 17 “to the fullest extent possible ... [e]ncourage and facilitate public involvement in decisions
 18 which affect the quality of the human environment” and “[u]se all practicable means ... to
 19 restore and enhance the quality of the human environment and avoid or minimize any possible
 20 adverse effects of their action upon the quality of the human environment,” *compare* 40 C.F.R.
 21 § 1500.2 (1978), *with* Final Rule, 85 Fed. Reg. at 43,317, 43,358 (removing and reserving
 22 § 1500.2);

23 d. Prohibits federal agencies from adopting NEPA regulations that are
 24 more stringent than CEQ’s Final Rule, 85 Fed. Reg. at 43,373 (to be codified at § 1507.3(a),
 25 (b));
 26

1 e. Preemptively concludes that all categorical exclusions (*i.e.*, actions that
2 federal agencies have determined will not have a significant environmental impact), effective
3 by September 14, 2020, comply with the Final Rule, *id.* at 43,373 (to be codified at
4 § 1507.3(a));

5 f. Establishes six “NEPA Thresholds” that will allow federal agencies to
6 avoid any environmental review of certain proposed actions, *id.* at 43,359 (to be codified at
7 § 1501.1);

8 g. Separates the definition of “major Federal action” from an action’s
9 significance and narrows the definition to exclude an agency’s failure to act as well as actions
10 that are not “subject to” an undefined amount of “Federal control and responsibility” and
11 actions that are extraterritorial, non-discretionary, have minimal federal funding or minimal
12 federal involvement, or receive certain federal loans, *id.* at 43,375 (to be codified at
13 § 1508.1(q));

14 h. Allows federal agencies to rely on unspecified procedures and
15 documentation prepared under other statutory or Executive Order requirements to avoid
16 conducting environmental review, *id.* at 43,359, 43,372–73 (to be codified at 40 C.F.R.
17 §§ 1501.1, 1506.9, 1507.3);

18 i. Authorizes federal agencies to determine that other statutes or directives
19 conflict with NEPA and thus excuse agencies from NEPA review, *id.* at 43,359, 43,373,
20 43,374 (to be codified at §§ 1501.1(a)(2), (a)(3), 1507.3(d)(2));

21 j. Revises the analysis of an agency action’s “significance,” to (i) diminish
22 the scope of actions that will require more detailed environmental review, (ii) remove a
23 prohibition on improperly segmenting a project to avoid analyzing its collective significant
24 impacts, and (iii) eliminate review of important concerns like an action’s public health impacts,
25 cumulative effects, effects on threatened and endangered species and their habitat, and
26 proximity to historic or cultural resources, park lands, farmlands, wetlands, wild and scenic

1 rivers, or ecologically critical areas, 85 Fed. Reg. at 43,360 (to be codified at 40 C.F.R.
2 § 1501.3(b));

3 k. Expands the use of categorical exclusions by adopting a new vague
4 definition that removes consideration of cumulative impacts and allows for use of categorical
5 exclusions in situations with extraordinary circumstances (*i.e.*, circumstances in which a
6 normally excluded action may have a significant effect and would formerly have required
7 preparation of an EA or EIS), *id.* at 43,360 (to be codified at § 1501.4);

8 l. Allows certain actions to proceed during NEPA review, potentially
9 limiting the range of alternatives that could be considered during environmental review despite
10 NEPA's direction that environmental review occur before agencies take action, *id.* at 43,370
11 (to be codified at § 1506.1);

12 m. Limits the number of alternatives to the proposed action analyzed in an
13 EA or EIS and the depth of that analysis by, among other things, removing the requirement that
14 agencies "[r]igorously explore and objectively evaluate" all reasonable alternatives to the
15 proposed action, eliminating consideration of alternatives outside the jurisdiction of the lead
16 agency, and removing the requirement that agencies "[d]evote substantial treatment to each
17 alternative," *id.* at 43,365 (to be codified at § 1502.14);

18 n. Narrows the scope of effects agencies are required to evaluate, imposes
19 strict causation requirements for determining which environmental effects should be
20 considered, and directs agencies not to consider cumulative and indirect effects, all of which
21 will limit review of environmental justice and climate change impacts, impacts to species listed
22 and critical habitat designated under the ESA, and other impacts, *id.* at 43,360, 43,365–66,
23 43,375 (to be codified at §§ 1501.3(b), 1502.15, 1508.1(g), (m));

24 o. Reduces agencies' obligations to obtain additional information about
25 environmental impacts when such information is not immediately available and further allows
26

1 agencies to refuse to consider certain scientific evidence if the agency determines it is not a
2 “reliable data source,” *id.* at 43,366–67 (to be codified at §§ 1502.21, 1502.23);

3 p. Allows project proponents with potential conflicts of interest to prepare
4 the EIS as long as conflicts are disclosed to the federal agency (but not the public), 85 Fed.
5 Reg. at 43,371 (to be codified at § 1506.5(b)(4));

6 q. Imposes unreasonable and unworkable time and page limits for EAs and
7 EISs, *id.* at 43,360, 43,362–64 (to be codified at §§ 1501.5(f), 1501.10(b), 1502.7);

8 r. Limits public participation in the NEPA process by striking key
9 provisions emphasizing the importance of public participation and eliminating the requirement
10 that a draft EIS circulated for public comment satisfy NEPA’s standards to the fullest extent
11 possible, *id.* at 43,364–65 (to be codified at § 1502.9);

12 s. Places an undue burden on the public to analyze environmental issues
13 and to meet a vague standard of specificity and detail and imposes burdensome exhaustion
14 requirements on commenters, *id.* at 43,358, 43,367–68 (to be codified at §§ 1500.3(b)(3),
15 1503.3);

16 t. Reduces agencies’ obligation to consider and respond to public
17 comments, *id.* at 43,366, 43,368–69 (to be codified at §§ 1502.17, 1505.2(b), 1503.4);

18 u. Permits agencies to claim a presumption that they have adequately
19 considered all public comments on an EIS, *id.* at 43,369 (to be codified at § 1505.2(b)); and

20 v. Seeks to limit judicial review of agency NEPA compliance by
21 attempting to restrict remedies parties injured by deficient NEPA review can secure through
22 litigation and promoting unlawful bond requirements, 85 Fed. Reg. at 43,358 (to be codified at
23 § 1500.3(c), (d)).

24 179. NEPA Review. CEQ did not conduct any environmental review before issuing
25 the Proposed Rule or Final Rule. Instead, CEQ asserted without adequate explanation that a
26 NEPA review was not required because the regulations are procedural and “apply generally to

1 Federal actions affecting the environment.” *Id.* at 43,353–54. CEQ then claimed that even if it
 2 were to conduct an EA, it likely would result in a Finding of No Significant Impact, citing its
 3 cursory analysis of environmental impacts in the Final Rule’s Regulatory Impact Analysis
 4 (RIA). *Id.* But the RIA analysis of environmental impacts, which consists of only two pages
 5 and a short appendix, does not meet requirements for an EA or an EIS and summarily
 6 concludes that the Final Rule will have no adverse environmental impacts. RIA at 10–11;
 7 App’x. A. The RIA does not analyze alternative actions, and it ignores environmental impacts
 8 of the Final Rule, including climate change and environmental justice impacts. Moreover,
 9 despite relying on the RIA to justify its conclusions of NEPA compliance in the Final Rule,
 10 CEQ did not make the RIA available for public review and comment.

11 180. ESA Review. Although CEQ acknowledged in the Final Rule that the
 12 promulgations of regulations “can be a discretionary action subject to section 7 of the ESA,”
 13 CEQ failed to consult with the Services regarding the impacts that the Final Rule may have on
 14 federally listed endangered and threatened species. Final Rule, 85 Fed. Reg. at 43,354.
 15 Instead, CEQ bypassed section 7’s consultation process entirely without providing meaningful
 16 analysis or supporting evidence for its conclusion that the Final Rule, which makes significant
 17 changes to how federal agencies review the environmental impacts of their actions, will have
 18 “no effect” on listed species or designated critical habitat. Final Rule, 85 Fed. Reg. at 43,354–
 19 55. In the Final Rule, CEQ asserts that it “determined that updating its regulations
 20 implementing the procedural provision of NEPA has ‘no effect’ on listed species or designated
 21 critical habitat. Therefore, section 7 consultation is not required.” *Id.* at 43,354. CEQ’s
 22 decision to forego consultation with the Services under section 7 regarding the impacts that the
 23 Final Rule may have on listed species or critical habitat violates the ESA because it is clear
 24 that the proposed rule may affect, and is in fact likely to adversely affect, myriad listed species
 25 and designated critical habitat. In addition, CEQ’s finding that no impact to listed species or
 26

critical habitat will result from the major changes to NEPA because the Final Rules are “procedural in nature” is arbitrary and capricious and violates both the ESA and the APA.

181. Environmental Justice. CEQ also did not adequately review environmental justice impacts from the Final Rule as required by Executive Order 12,898. Instead, in the Final Rule, CEQ concluded without rational explanation or support, and again relying on the inadequate RIA, that the Final Rule will “not cause disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.” Final Rule, 85 Fed. Reg. at 43,356–57.

182. The Final Rule will become effective on September 14, 2020. *Id.* at 43,372 (to be codified at § 1506.13). At that time, CEQ’s existing guidance documents that are inconsistent with the regulatory changes will effectively be withdrawn. *Id.* at 43,371 (to be codified at § 1506.7).

183. Federal agencies may apply the Final Rule to ongoing activities and environmental documents begun before the effective date. *Id.* at 43,372–73 (to be codified at § 1506.13). As a result, federal agencies may apply the revised regulations to NEPA reviews currently in progress, including reviews impacting State Plaintiffs.

184. Federal agencies are also required to amend their NEPA regulations to conform to the Final Rule. *Id.* at 43,373 (to be codified at § 1507.3(b)).

185. The Final Rule is unlawful and violates NEPA and the APA, because: (i) the Final Rule is contrary to NEPA’s text and purpose; (ii) CEQ failed to provide a rational explanation for the Final Rule’s numerous changes in policy and interpretation; (iii) CEQ exceeded its statutory authority with certain revisions in the Final Rule; (iv) CEQ violated notice-and-comment requirements; and (v) CEQ failed to analyze the Final Rule’s significant environmental impacts or consider reasonable alternatives to the Final Rule, as required by NEPA. CEQ also violated the ESA and the APA by failing to consult with the Services prior to adopting the Final Rule, despite the fact that the Final Rule may impact federally listed

1 threatened and endangered species. For these reasons, the Final Rule is arbitrary, capricious,
 2 and contrary to law, was promulgated in excess of statutory authority and without observance
 3 of procedure required by law, and should be vacated.

4 **VI. THE FINAL RULE WILL HARM STATE PLAINTIFFS**

5 186. State Plaintiffs' unique, concrete, and particularized interests will be harmed by
 6 CEQ's Final Rule, which undermines and weakens key NEPA requirements. A judgment
 7 vacating the Final Rule and reinstating the 1978 regulations and associated guidance would
 8 redress these harms.

9 187. As the Supreme Court has recognized, State Plaintiffs are entitled to "special
 10 solicitude" in seeking to remedy environmental harms. *Massachusetts v. EPA*, 549 U.S. 497
 11 519–22 (2007). State Plaintiffs have a concrete proprietary and sovereign interest in
 12 preventing harm to their natural resources, including their state-owned and state-regulated
 13 water, air, coastlines, public lands, and wildlife, as a result of fewer and less robust federal
 14 environmental reviews and diminished public participation.

15 188. Many federal actions, including those actions subject to NEPA, impact state-
 16 owned and/or state-regulated resources. Federal agencies routinely conduct major Federal
 17 actions within and near our states and territories, including those related to federal land
 18 management, infrastructure projects, energy projects, water management, national defense and
 19 military training, and interstate transportation projects. Federal lands often encompass large-
 20 scale and important ecosystems that help to support biodiversity, including ESA listed species
 21 and their critical habitat.

22 189. Among other things, the Final Rule will increase the number of federal actions
 23 that avoid environmental review and diminish the scope of NEPA reviews that do occur. Both
 24 of these changes will reduce federal agencies' understanding of proposed actions' potential
 25 harms on the environment, including but not limited to, harms to listed species and critical
 26 habitat. These changes will also limit opportunities through the NEPA process to develop

1 alternatives or other solutions that avoid or mitigate adverse impacts to state and territorial
2 natural resources (including water, air, coastlines, public lands, wildlife, and species listed and
3 critical habitat designated under the ESA) and public health. As a result, the Final Rule will
4 cause unmitigated adverse impacts to public health and to state and territorial natural resources
5 (including water, air, coastlines, public lands, wildlife, and species listed and critical habitat
6 designated under the ESA).

7 190. In particular, the Final Rule eliminates consideration of indirect and cumulative
8 impacts, including a project's reasonably foreseeable upstream and downstream GHG
9 emissions, the impact of those emissions on climate change, and methods for avoiding and
10 mitigating those impacts. Climate change impacts have already harmed and are continuing to
11 harm state and territorial sovereign lands and coastal areas, state and territorial natural
12 resources (including ESA listed species and their critical habitat), state and territorial
13 infrastructure, and the health and safety of state and territorial residents resulting in economic
14 losses for State Plaintiffs. State Plaintiffs are already committing significant resources to
15 reduce their own greenhouse gas (GHG) emissions and investing in infrastructure to protect
16 communities and state resources from the impacts of climate change. Contrary to NEPA, the
17 Final Rule impedes these efforts. Without detailed information about an action's GHG
18 emissions and climate impacts, federal agencies will not engage in efforts to avoid or mitigate
19 harms from those emissions and impacts, which will exacerbate climate change impacts in our
20 states and territories, diminish our states' understanding of the actions contributing to those
21 impacts, and cause states and territories economic harm.

22 191. Eliminating consideration of climate impacts will also place an increased
23 burden on efforts by State Plaintiffs to study and abate harms from climate change. For
24 example, the Final Rule's elimination of climate change considerations will make it more
25 challenging for New York to assess GHGs from projects subject to NEPA review where those
26 GHGs are generated outside New York but are associated with electricity generation or fossil

1 fuel transportation in New York. Under New York’s Climate Leadership and Community
 2 Protection Act, Chapter 106 of the Laws of 2019 (Climate Act), which requires significant
 3 statewide emission reductions by set dates, such out-of-state emissions contribute to statewide
 4 GHG emissions. N.Y. Envtl. Conserv. L. § 75-0107(1). New York thus may need to
 5 implement additional and potentially costly regulatory, policy, or other actions to ensure the
 6 achievement of the requirements of the Climate Act. By decreasing the quality of analysis and
 7 potential mitigation for GHG emissions from projects with impacts on Massachusetts residents,
 8 the Final Rule may impose similar challenges and burdens on Massachusetts’ ability to assess
 9 and meet the GHG emission-reduction mandates of the Massachusetts Global Warming
 10 Solutions Act. *See* Mass. Gen. Laws. ch. 21N, §§ 1–11.

11 192. The scope of cumulative impact review required under the 1978 NEPA
 12 regulations was broader than the cumulative impact review performed during an ESA
 13 consultation process. The Final Rule, however, eliminates cumulative impact analysis during
 14 the NEPA review process entirely, undermining CEQ’s conclusion that the Final Rule will
 15 have “no effect” on listed species or designated critical habitat. For example, the Final Rule’s
 16 instruction that federal agencies should not consider impacts that are “remote in time” and
 17 “geographically remote” may result in inadequate analysis of and, consequently, potential
 18 damage to the State Plaintiffs’ fish and wildlife, including ESA listed species and designated
 19 critical habitat. For ESA listed species and designated critical habitat, this harm will occur
 20 even if federal agencies perform site-specific ESA consultation, due to the more limited scope
 21 of cumulative impacts analysis required under the ESA’s section 7 implementing regulations.
 22 *See* 50 C.F.R. §§ 402.02, 402.14(g)(3)–(4). One example of such harm is apparent in the
 23 context of federal dam operations, which have a major impact on several of Oregon’s iconic
 24 salmon populations, many of which are listed as threatened or endangered under the ESA.
 25 Salmon travel hundreds of miles and juvenile salmon may be harmed by powerhouses in the
 26 hydrosystem, only to succumb to their injuries after entering the ocean or on their migration

1 upstream as adults. Due to the Final Rule's elimination of consideration of "geographically
2 remote" impacts and impacts that are "remote in time," NEPA analysis of federal hydrosystem
3 actions could disregard these impacts to State Plaintiffs' natural resources, including species
4 listed and critical habitat designated under the ESA.

5 193. By decreasing opportunities for public comment and participation, the Final
6 Rule also limits State Plaintiffs' ability to influence federal projects affecting their natural
7 resources and residents. Through NEPA, state and territorial agencies regularly engage with
8 federal agencies and permit applicants to identify potential adverse impacts to their state and
9 territorial resources and propose alternatives or mitigation measures to avoid those harms. For
10 example, the Washington Department of Fish and Wildlife recently commented on the draft
11 EA for a proposed expansion of a ski area on federal lands within the state to highlight impacts
12 to state lands and wildlife and suggest the most effective mitigation of these impacts.
13 Washington state agencies also recently submitted comments on the Draft Supplemental EIS
14 for the Navy's proposed Northwest Training and Testing activities, which threatens harmful
15 impacts to critically endangered Southern Resident Killer Whales, a species that Washington
16 has dedicated significant resources to protect. Under the Final Rule, these opportunities to
17 comment on and help shape federal actions affecting state resources, including ESA listed
18 species and designated critical habitat, will be diminished in some situations and lost in others.
19 Where actions proceed with diminished public process under the Final Rule, states will lose the
20 opportunity to comment on or, if necessary, challenge the actions before harms occur.

21 194. Fewer and less robust environmental reviews and diminished opportunities for
22 public participation will also increase the burden on State Plaintiffs to respond to public health
23 disparities flowing from uninformed federal decisions that adversely impact vulnerable
24 communities. For example, the Final Rule excludes consideration of cumulative impacts to
25 communities that face a historic and disproportionate pattern of exposure to environmental
26 hazards and are more likely to suffer future health disparities due to the elimination of

1 cumulative impact review from the NEPA process. These communities also are more likely to
2 experience severe impacts of climate change, including flooding, extreme weather events such
3 as extreme heat, and degraded air and water quality. Increased public health and community
4 harms from weakened NEPA reviews will require greater expenditures of state and territorial
5 funds to remedy increased public health disparities flowing from uninformed federal agency
6 action.

7 195. These harms will also impair ongoing efforts by State Plaintiffs to reduce public
8 health disparities, which State Plaintiffs already devote significant resources to address. For
9 example, the New York State Department of Environmental Conservation's Office of
10 Environmental Justice directs resources to disproportionately impacted communities and
11 enhances public participation through grant opportunities, enforcement of environmental laws
12 and programs, and consultation with local industries. California's Community Air Protection
13 Program (CAPP) helps to reduce exposure in communities most impacted by air pollution.
14 CAPP works with communities throughout California to measure and reduce adverse health
15 impacts from air pollution, including through targeted incentive funding to deploy cleaner
16 technologies in communities experiencing localized air pollution. In Washington, the
17 Department of Health and a statewide Environmental Justice Task Force are working to reduce
18 health disparities. The Final Rule hinders these state efforts by adopting changes that allow
19 agencies to avoid thorough consideration of impacts on public health and environmental
20 justice.

21 196. In addition, fewer and less robust NEPA reviews may increase the burden on
22 some State Plaintiffs to protect vulnerable species and the habitats upon which they depend
23 through the protections afforded under state environmental review laws and other state efforts
24 to protect biodiversity.

25 197. State Plaintiffs have also relied on the 1978 regulations to review proposed
26 agency NEPA rules and to determine their potential impact on state and territorial natural

1 resources. For example, the Washington Department of Fish and Wildlife (WDFW) relied on
2 the requirement in the 1978 regulations that projects with extraordinary circumstances will not
3 be subject to a categorical exclusion in assessing potential wildlife impacts from the Forest
4 Service's proposed categorical exclusions. *See* Letter from WDFW Director Kelly Susewind
5 to Amy Baker, U.S. Forest Service on proposed categorical exclusions, USFS-HQ-2019-12195
6 (Aug. 6, 2019). The Final Rule, however, authorizes federal agencies to apply a categorical
7 exclusion even where extraordinary circumstances exist, diminishing the protections to state
8 natural resources on which WDFW relied. Similarly, the Final Rule requires federal agencies
9 to amend their NEPA regulations to meet the lowered environmental review standards of the
10 Final Rule, which will increase the risk of adverse impacts to state and territorial natural
11 resources, including species listed and critical habitat designated under the ESA.

12 198. Additionally, State Plaintiffs have institutional, proprietary, and economic
13 interests in federal agency compliance with NEPA's text and goals of environmental
14 protection, public participation, and informed decision making. Fewer and weaker federal
15 environmental reviews mean that state agencies in Washington, California, New York, and
16 Massachusetts will no longer be able to adopt or incorporate most federal NEPA documents
17 into their own state NEPA review processes because the NEPA documents will no longer
18 satisfy state law, including, for example, requirements that state review include climate
19 impacts and greenhouse gas emissions. *See, e.g.*, Wash. Rev. Code ch. 43.21; Cal. Pub. Res.
20 Code § 21083.5; 6 N.Y. Comp. Codes R. & Regs. § 617.15; Mass. Gen. Laws, ch. 30, §§ 61,
21 62G. Similarly, state agencies in California will no longer be able to prepare joint documents
22 to satisfy both NEPA and California's little NEPA law, and this will increase the burden on
23 state agencies to prepare their own stand-alone environmental documents. Cal. Code Regs., tit.
24 14, § 1517. Similar problems may arise even in states that do not have so-called "little
25 NEPAs." In Oregon, for example, the State Energy Facility Siting Council may need to
26 develop separate environmental reviews to meet the requirements of Oregon statutory law

1 before approving energy facilities, rather than rely on federal NEPA documentation according
2 to the Council's longstanding practice. As a result, State Plaintiff agencies will need to expend
3 significant financial and administrative resources to conduct environmental analyses that
4 would not have been necessary under the 1978 regulations.

5 199. Robust NEPA review is critical for State Plaintiffs that lack environmental
6 review processes or where state environmental review statutes may not apply. In these
7 situations, state agencies will be unable to fill significant gaps in analysis through their own
8 state environmental review and will thus need to rely on the federal NEPA process to
9 understand a project's anticipated environmental impacts. Where the federal environmental
10 review is insufficient, as it will be under the Final Rule, states and territories will lack valuable
11 information to determine how federal projects will impact state and territorial natural
12 resources.

13 200. Moreover, while State Plaintiffs can act to protect natural resources within their
14 borders, they cannot control decisions made by non-plaintiff states about resources that cross
15 state boundaries, such as water, air, and wildlife. Thus, despite the State Plaintiffs' efforts,
16 State Plaintiffs may not be able wholly to fill the regulatory gaps created by the Final Rule.

17 201. Federal agencies will also be required to amend their NEPA regulations to
18 conform to the Final Rule. 85 Fed. Reg. at 43,373 (to be codified at § 1507.3(b)). These
19 regulatory changes will further burden State Plaintiff agencies that frequently participate in the
20 NEPA process and will place a particular burden on State Plaintiff agencies, like Caltrans, that
21 have been delegated NEPA authority.

22 202. State Plaintiffs also suffered procedural harm from CEQ's failure to comply
23 with the procedural requirements of the APA, NEPA, and the ESA in promulgating the Final
24 Rule. CEQ's failure to promulgate a rationally supported and lawful rule, failure to prepare an
25 EA or EIS for the Final Rule, and failure to consult with the Services regarding impacts to
26 listed species and designated critical habitat harms State Plaintiffs' procedural interests in

1 participating in a lawful rulemaking and environmental review process that adequately
 2 considers and mitigates impacts on the State Plaintiffs' residents, natural resources, and ESA
 3 listed species and designated critical habitat.

4 203. State Plaintiffs have thus suffered concrete injury caused by CEQ's
 5 promulgation of the Final Rule. A court judgment vacating the entire Final Rule and
 6 reinstating the 1978 regulations and associated guidance will redress the harms to State
 7 Plaintiffs by requiring that federal agencies continue to review actions under the prior
 8 regulations and guidance, consistent with NEPA. Therefore, State Plaintiffs have standing to
 9 bring this action.

10 **FIRST CAUSE OF ACTION**

11 **Violation of the APA and NEPA by Adopting Regulations Contrary to NEPA** **5 U.S.C. § 706(2); 42 U.S.C. §§ 4321 *et seq.***

12 204. State Plaintiffs incorporate all preceding paragraphs by reference.

13 205. The APA provides that this Court shall "hold unlawful and set aside" agency
 14 action that is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with
 15 law" or "in excess of statutory jurisdiction, authority, or limitations, or short of statutory right."
 16 5 U.S.C. § 706(2). An agency does not have authority to adopt a regulation that is "plainly
 17 contrary to the statute." *Morton*, 467 U.S. at 834; *Babbitt v. Sweet Home Chapter of Cmty.*
 18 *for a Great Or.*, 515 U.S. 687, 703 (1995).

19 206. The Final Rule is "not in accordance with law" because it conflicts with
 20 NEPA's text, structure, and purpose and exceeds the scope of CEQ's jurisdiction, authority,
 21 and discretion under NEPA.

22 207. The Final Rule violates NEPA and the APA by adopting provisions that, both
 23 individually and collectively, conflict with NEPA's overriding purposes of environmental
 24 protection, public participation, and informed decision making and the statute's mandate that
 25 agencies apply NEPA "to the fullest extent possible." 5 U.S.C. § 706(2)(A); 42 U.S.C.
 26 §§ 4331, 4332. The Final Rule is unlawful because, among other things, it:

1 a. Restricts the number of projects subject to detailed environmental
 2 review, including, among others things, through (i) a new “NEPA thresholds” provision that
 3 establishes six broad and ill-defined circumstances in which NEPA does not apply, Final Rule,
 4 85 Fed. Reg. at 43,359 (to be codified at § 1501.1); (ii) a narrow definition of “major Federal
 5 action” that is inconsistent with NEPA’s plain language, *id.* at 43,375 (to be codified at
 6 § 1508.1(q)); and (iii) a revised analysis for determining what actions are likely to have
 7 “significant effects” and thus require an EIS, *id.* at 43,360 (to be codified at § 1501.3). These
 8 provisions are directly contrary to NEPA’s text and purpose and its mandate that agencies
 9 apply the statute “to the fullest extent possible.” *See* 42 U.S.C. §§ 4331, 4332.

10 b. Limits the scope of environmental effects agencies must consider when
 11 conducting NEPA review. For example, the Final Rule allows agencies to avoid considering
 12 cumulative and indirect impacts, as well as impacts that are “remote in time” or
 13 “geographically remote.” Final Rule, 85 Fed. Reg. at 43,375 (to be codified at § 1508.1(g));
 14 *see also id.* at 43,360 (to be codified at § 1501.3(b)(1)) (limiting the “affected area” in the
 15 significance analysis to “national, regional, or local”). Congress however, plainly intended
 16 NEPA to address such impacts. NEPA directs agencies to consider “any adverse
 17 environmental effects which cannot be avoided should the proposal be implemented,”
 18 42 U.S.C. 4332(C)(ii), and “the relationship between local short-term uses of man’s
 19 environment and the maintenance and enhancement of long-term productivity,” *id.*
 20 § 4332(2)(C)(iv). NEPA further directs agencies to “recognize the worldwide and long-range
 21 character of environmental problems,” rather than examine the impacts of each federal
 22 proposal in a silo, *id.* § 4332(2)(F). Indeed, the Senate Committee Report on NEPA stated that
 23 the statute was necessary because “[i]mportant decisions concerning the use and the shape of
 24 man’s future environment continue to be made in small but steady increments which
 25 perpetuate rather than avoid the recognized mistakes of previous decades.” S. Rep. No. 91-
 26 296, at 5. Avoiding this death by a thousand cuts demands that federal agencies carefully

1 consider the cumulative environmental impacts of their actions with other related and unrelated
2 actions—not, as the Final Rule would have it, ignore those impacts entirely.

3 c. Limits the number of alternatives to the proposed action analyzed in an
4 EA or EIS and the depth of that analysis by, among other things, removing the requirement that
5 agencies “[r]igorously explore and objectively evaluate” all reasonable alternatives to the
6 proposed action, eliminating consideration of alternatives outside the jurisdiction of the lead
7 agency, and removing the requirement that agencies “[d]evote substantial treatment to each
8 alternative. Final Rule, 85 Fed. Reg. at 43,365 (to be codified at § 1502.14). The Final Rule
9 also unlawfully allows certain actions to proceed during NEPA review, constraining available
10 alternatives. *Id.* at 43,370 (to be codified at § 1506.1). Contrary to these provisions, NEPA’s
11 plain language requires “to the fullest extent possible” consideration of “alternatives to the
12 proposed action” and limits action on proposals until after that comprehensive environmental
13 review occurs. 42 U.S.C. § 4332, 4332(2)(C)(iii); *Robertson*, 490 U.S. at 349 (“Simply by
14 focusing the agency’s attention on the environmental consequences of a proposed project,
15 NEPA ensures that important effects will not be overlooked or underestimated only to be
16 discovered after resources have been committed or the die otherwise cast.”).

17 d. Diminishes agencies’ obligation to obtain or develop information
18 regarding environmental impacts when such information is not already available. The 1978
19 regulations required agencies to obtain such information when the cost of obtaining it was “not
20 exorbitant.” 40 C.F.R. § 1502.22(a) (1978). The Final Rule lowers the bar and permits
21 agencies to forgo additional investigation when the cost would be merely “unreasonable.”
22 Final Rule, 85 Fed. Reg. at 43,366 (to be codified at 40 C.F.R. § 1502.21(b)). This vague and
23 lax standard is inconsistent with NEPA’s statutory mandate that agencies consider all the
24 environmental impacts of their actions, not just those that are readily apparent. *See* 42 U.S.C.
25 § 4332(2)(C)(ii) (agencies must disclose “any adverse environmental effects which cannot be
26 avoided should the proposal be implemented” (emphasis added)).

e. Undermines the ability of State Plaintiffs and the public to comment on federal proposals, in direct conflict with NEPA's informed decision making mandate and direction that federal agencies work "in cooperation with State and local governments, and other concerned public and private organizations." *Id.* § 4331(a); *see also id.* § 4332(2)(C) (directing that "the comments and views of the appropriate Federal, State, and local agencies ... shall accompany the [agency] proposal through the existing agency review processes" and shall be made available to the public), *id.* § 4332(2)(G) ("make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment"). The Final Rule allows federal agencies to claim a "presumption" that they have considered public comments (including comments by states and their agencies) by making a certification in the record of decision approving a proposed action. Final Rule, 85 Fed. Reg. 43,369 (to be codified at 40 C.F.R. § 1505.2(b)). This unjustified presumption invites federal agencies to overlook state and public input on federal proposals. Indeed, the Final Rule adds a provision stating that agencies "are not required to respond to each comment." *Id.* at 43,368 (to be codified at 40 C.F.R. § 1503.4(a)(5)). Together, these changes, which excuse federal agencies from providing meaningful response to comments submitted by State Plaintiffs, local governments, and the public, unlawfully render NEPA's mandated public participation process an empty paperwork exercise.

208. For these reasons, the Final Rule is arbitrary and capricious, an abuse of discretion, and contrary to the requirements of NEPA and the APA. 5 U.S.C. § 706(2); 42 U.S.C. §§ 4321 *et seq.* The Final Rule should therefore be held unlawful and set aside.

SECOND CAUSE OF ACTION
Violation of the APA for Arbitrary and Capricious Rulemaking
5 U.S.C. § 706(2)

209. State Plaintiffs incorporate all preceding paragraphs by reference.

1 210. The APA provides that this Court shall “hold unlawful and set aside” agency
2 action that is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with
3 law,” “without observance of procedure required by law,” or “in excess of statutory
4 jurisdiction, authority, or limitations, or short of statutory right.” 5 U.S.C. § 706(2).

5 211. Pursuant to the APA, in promulgating a regulation an “agency must examine the
6 relevant data and articulate a satisfactory explanation for its action including a rational
7 connection between the facts found and the choice made.” *State Farm*, 463 U.S. at 43.

8 212. When the regulation represents a change in policy or interpretation, the agency
9 must provide a rational explanation for that change. *Fox Television, Inc.*, 556 U.S. at 515. The
10 agency must demonstrate that the new rule “is permissible under the statute, that there are good
11 reasons for it, and that the agency *believes* it to be better, which the conscious change of course
12 adequately indicates.” *Id.*

13 213. Moreover, in changing policy agencies are “required to assess whether there
14 were reliance interests, determine whether they were significant, and weigh any such interests
15 against competing policy concerns.” *Dep’t of Homeland Sec.*, 140 S. Ct. at 1915 (citations
16 omitted).

17 214. In promulgating the Final Rule, CEQ failed, both for the entire rule and for its
18 individual changes, to provide the reasoned analysis required by the APA. Specifically, CEQ
19 failed to provide a rational explanation for its changes to its longstanding NEPA interpretations
20 and policies, relied on factors Congress did not intend for CEQ to consider, offered
21 explanations that run counter to the evidence before the agency, ignored substantial reliance
22 interests (including reliance by State Plaintiffs on NEPA’s procedures to help protect state and
23 territorial natural resources and public health) in the 1978 regulations and associated guidance,
24 and entirely overlooked important issues.

25 215. CEQ provided no reasoned analysis to demonstrate that the revisions in the
26 Final Rule, both individually and collectively, will achieve its purported objectives to reduce

1 paperwork and delays while “at the same time to produce better decisions [that] further the
2 national policy to protect and enhance the quality of the human environment.” Final Rule,
3 85 Fed. Reg. at 43,313; *see also id.* at 43,307.

4 216. In particular, CEQ failed to demonstrate how the Final Rule will further
5 NEPA’s policies of producing better decisions and furthering protection and enhancement of
6 the human environment when the Final Rule adopts provisions that conflict with NEPA’s text,
7 purpose, legislative history, and CEQ’s longstanding prior interpretations; that will produce
8 fewer and less robust environmental reviews and restrict public participation; and that will
9 limit judicial review.

10 217. CEQ further failed to demonstrate how its revisions will reduce delay or add
11 clarity when CEQ’s Final Rule injected new, undefined, and poorly explained language and
12 requirements into the NEPA process and swept away decades of agency regulations, guidance,
13 and case law that formerly provided extensive direction for federal agencies implementing
14 NEPA. If anything, the Final Rule will lead to more delay, confusion, and litigation over the
15 correct interpretation and application of the Final Rule.

16 218. CEQ also failed to meaningfully examine evidence, including studies developed
17 by CEQ itself, demonstrating successful implementation of NEPA under the 1978 regulations
18 and indicating that delay in project implementation is often caused by factors other than CEQ’s
19 implementing regulations. *See, e.g.,* U.S. Gov’t Account. Office, *National Environmental*
20 *Policy Act: Little Information Exists on NEPA Analyses*, 16 (Apr. 2014).

21 219. CEQ also failed to rationally consider environmental justice impacts from the
22 Final Rule or provide factual support for its conclusion that the Final Rule will “not cause
23 disproportionately high and adverse human health or environmental effects on minority
24 populations and low-income populations.” Final Rule, 85 Fed. Reg. at 43,356–57. CEQ does
25 not justify its departure from its longstanding policy that environmental justice impacts should
26 be thoroughly analyzed through the NEPA process.

220. CEQ also failed to consider important aspects of the Final Rule by, among other things, ignoring evidence of NEPA's successful implementation and sweeping away concerns about environmental justice impacts, natural resource impacts (including climate change impacts), and burdens imposed on State Plaintiffs resulting from the Final Rule.

221. For these reasons, the Final Rule is arbitrary and capricious, an abuse of discretion, and contrary to the requirements of the APA. 5 U.S.C. § 706(2). The Final Rule should therefore be held unlawful and set aside.

THIRD CAUSE OF ACTION

Violation of the APA for Promulgating Regulations in Excess of Statutory Authority 5 U.S.C. § 706(2); 42 U.S.C. §§ 4321 *et seq.*

222. State Plaintiffs incorporate all preceding paragraphs by reference.

223. The APA provides that this Court shall “hold unlawful and set aside” agency action that is “in excess of statutory jurisdiction, authority, or limitations, or short of statutory right.” 5 U.S.C. § 706(2).

224. Several of the Final Rule's provisions, individually and collectively, exceed CEQ's “statutory jurisdiction [and] authority.” *Id.* § 706(2)(C).

225. These unlawful revisions include:

a. Carving out new exceptions to NEPA's requirements. As discussed above, the Final Rule would greatly expand the circumstances in which agencies can avoid complying with NEPA. CEQ has no authority to excuse agencies from complying with NEPA's environmental review mandate.

b. Redefining “major Federal action” to exclude an agency's failure to act, *compare* 40 C.F.R. § 1508.18 (“[a]ctions include the circumstance where the responsible agency officials fail to act and that failure to act is reviewable by courts or administrative tribunals”), *with* Final Rule, 85 Fed. Reg. at 43,375 (to be codified at § 1508.1(q) (removing failure to act language from the definition of “major Federal action”)), effectively rewriting the

1 definition of a reviewable agency action under the APA, 5 U.S.C. § 551(13). CEQ has no
2 authority to limit the application of the APA.

3 c. Placing a limit on the remedies available in a NEPA lawsuit, stating that
4 “[h]arm from the failure to comply with NEPA can be remedied by compliance with NEPA’s
5 procedural requirements,” suggesting that courts should decline to invalidate agency action
6 where agencies commit “minor, non-substantive errors that have no effect on agency decision
7 making,” and stating that the Final Rule “create[s] no presumption that violation of NEPA is a
8 basis for injunctive relief or for a finding of irreparable harm.” Final Rule, 85 Fed. Reg. at
9 43,358 (to be codified at § 1500.3(d)). CEQ has no authority, statutory or otherwise, to
10 instruct courts on the remedies they can order. *See City of Los Angeles v. Barr*, 941 F.3d 931,
11 938 (9th Cir. 2019) (“An agency literally has no power to act ... unless and until Congress
12 confers power upon it.”).

13 226. For these reasons, the Final Rule is arbitrary, capricious, not in accordance with
14 law and in excess of CEQ’s statutory authority. 5 U.S.C. § 706(2); 42 U.S.C. §§ 4321 *et seq.*
15 The Final Rule should therefore be held unlawful and set aside.

16 **FOURTH CAUSE OF ACTION**
17 **Violation of the APA’s Notice-and-Comment Requirements**
18 **5 U.S.C. § 706(2)**

19 227. State Plaintiffs incorporate all preceding paragraphs by reference.

20 228. The APA provides that this Court shall “hold unlawful and set aside” agency
21 action that is “without observance of procedure required by law.” 5 U.S.C. § 706(2).

22 229. Prior to promulgating, amending, or repealing a rule, agencies must engage in a
23 public notice-and-comment process. *Id.* §§ 551(5), 553. To satisfy the requirements of APA
24 section 553(b), agencies must afford public notice of specific regulatory changes and their
25 reasoned basis to provide the public an opportunity for meaningful comment. *Home Box*
26 *Office v. FCC*, 567 F.2d at 35–36. To allow for meaningful public comment, an agency must
“make available” during the public comment period “technical studies and data that it has

1 employed in reaching the decision[] to propose particular rules.” *Kern Cty. Farm Bureau*, 450
 2 F.3d at 1076. The public may then submit comments on the proposed rule. 5 U.S.C. § 553(c).

3 230. “An agency must consider and respond to significant comments received during
 4 the period for public comment.” *Perez*, 575 U.S. at 96. “These procedures are ‘designed to
 5 assure due deliberation’ of agency regulations and ‘foster the fairness and deliberation that
 6 should underlie a pronouncement of such force.’” *E. Bay Sanctuary Covenant v. Trump*, 932
 7 F.3d 742, 775 (9th Cir. 2018) (quoting *United States v. Mead Corp.*, 533 U.S. 218, 230
 8 (2001)). “In considering and responding to comments, ‘the agency must examine the relevant
 9 data and articulate a satisfactory explanation for its action including a “rational connection
 10 between the facts found and the choice made.”’” *Altera Corp. & Subsidiaries v. Comm’r of*
 11 *Internal Revenue*, 926 F.3d 1061, 1080 (9th Cir. 2019) (quoting *State Farm*, 463 U.S. at 43),
 12 *cert. denied sub nom. Altera Corp. & Subsidiaries v. CIR*, No. 19-1009, 2020 WL 3405861
 13 (U.S. June 22, 2020).

14 231. CEQ failed to provide a meaningful opportunity to comment on data or
 15 technical studies that it employed in reaching conclusions in the Final Rule. *Kern Cty. Farm*
 16 *Bureau*, 450 F.3d at 1076.

17 232. In the Final Rule, CEQ relied repeatedly on its RIA to support its revised
 18 regulations and to dismiss harms to the environment, public health, and vulnerable
 19 communities, including to dismiss its obligation under NEPA to prepare an EA or EIS and its
 20 obligation under Executive Order 12,898 to assess environmental justice impacts. *See, e.g.*,
 21 Final Rule, 85 Fed. Reg. at 43,352, 43,354, 43,356. CEQ thus relied on the RIA in reaching its
 22 decisions in the Final Rule.

23 233. CEQ did not provide an opportunity for the public to comment on the RIA prior
 24 to promulgating the Final Rule.

1 234. CEQ also failed to respond adequately to comments on the Proposed Rule. For
2 example, State Plaintiffs and others submitted significant comments on the Advance Notice
3 and the Proposed Rule explaining that:

4 a. CEQ has not presented sufficient evidence to demonstrate a need for the
5 Proposed Rule, particularly given that studies, including studies developed by CEQ itself, and
6 State Plaintiffs' own experience with NEPA demonstrate that NEPA leads to better decisions,
7 that external factors contribute to delay in environmental reviews, and that existing tools could
8 remedy CEQ's concerns about delay;

9 b. CEQ's Proposed Rule, if finalized, would increase confusion,
10 uncertainty, and litigation, causing the very delay CEQ claimed that it sought to avoid in
11 promulgating the Final Rule;

12 c. CEQ's Proposed Rule, if finalized, would adversely impact the unique
13 interests of states, territories, and local governments including by harming state resources,
14 limiting state access to information, disrupting coordination with federal agencies,
15 undermining state reliance on the 1978 regulations and associated guidance, and burdening
16 states with increased environmental review;

17 d. CEQ's Proposed Rule, if finalized, would eliminate consideration of
18 climate change impacts, contributing to adverse impacts to natural resources and public health
19 in our states, territories, and communities; and

20 e. CEQ's Proposed Rule, if finalized, would adversely impact vulnerable
21 communities by limiting NEPA's application and scope, including by excluding certain federal
22 actions from environmental review, eliminating consideration of cumulative impacts, and
23 limiting opportunities for public comment.

24 235. CEQ failed to provide a rational response to these significant comments. To the
25 extent CEQ addressed these issues, it provided only cursory responses that did not "examine
26

1 the relevant data and articulate a satisfactory explanation for its action.” *Altera Corp. &*
 2 *Subsidiaries*, 926 F.3d at 1080.

3 236. Because CEQ failed to provide an opportunity to comment on the RIA and CEQ
 4 failed to rationally respond to significant comments, the Final Rule is arbitrary, capricious, an
 5 abuse of discretion, and promulgated “without observance of procedure required by law.”
 6 5 U.S.C. § 706(2). The Final Rule should therefore be held unlawful and set aside.

7 **FIFTH CAUSE OF ACTION**

8 **Violation of NEPA and the APA for Failure to Prepare an EA or EIS on the Final Rule** 9 **42 U.S.C. § 4332(2)(C); 5 U.S.C. § 706(2)**

10 237. State Plaintiffs incorporate all preceding paragraphs by reference.

11 238. NEPA requires federal agencies to take a “hard look” at the environmental
 12 consequences of a proposal before acting on it. *See* 42 U.S.C. § 4332. That is, a federal
 13 agency must prepare an EIS for all “major Federal actions significantly affecting the quality of
 14 the human environment.” *Id.* § 4332(2)(C); 40 C.F.R. § 1502.3 (1978).

15 239. An EIS must discuss, among other things: the environmental impact of the
 16 proposed federal action, any adverse and unavoidable environmental effects, any alternatives
 17 to the proposed action, and any irreversible and irretrievable commitment of resources
 18 involved in the proposed action. 42 U.S.C. § 4332(2)(C).

19 240. CEQ is a federal agency subject to NEPA.

20 241. CEQ’s 1978 regulations apply to CEQ’s promulgation of the Final Rule. Final
 21 Rule, 85 Fed. Reg. 43,354 (stating that if CEQ were to prepare an EIS on the Final Rule, the
 22 1978 regulations would apply).

23 242. Under CEQ’s 1978 regulations, a “major Federal action” included “new or
 24 revised agency rules [and] regulations,” like the Final Rule. 40 C.F.R. § 1508.18(a) (1978).

25 243. CEQ’s 1978 regulations specify that in an EIS, agencies must rigorously
 26 explore and objectively evaluate all reasonable alternatives, including the alternative of taking

1 no action, and must discuss the reasons for eliminating any alternatives rejected from detailed
2 study. *Id.* § 1502.14.

3 244. The 1978 regulations also require agencies to analyze both the direct impacts
4 that an action will have on the environment, as well as the action's "reasonably foreseeable"
5 indirect and cumulative impacts. Indirect impacts are "caused by the action and are later in
6 time or farther removed in distance, but are still reasonably foreseeable." *Id.* § 1508.8(b)
7 (1978). Cumulative impacts are those impacts that result "from the incremental impact of the
8 action when added to other past, present, and reasonably foreseeable future actions." *Id.*
9 § 1508.7 (1978).

10 245. CEQ's analysis of alternatives and impacts should consider, among other things,
11 the disproportionately high and adverse human health or environmental effects of their actions
12 on minority and low-income populations. 42 U.S.C. § 4332(2)(C); Exec. Order No. 12,898,
13 59 Fed. Reg. 7,629 (1994) (as amended); CEQ, Environmental Justice (1997).

14 246. As a preliminary step, an agency may first prepare an EA to determine whether
15 the effects of an action may be significant. 40 C.F.R. §§ 1501.4(b), 1508.9 (1978). If an
16 agency decides not to prepare an EIS, it must supply a "convincing statement of reasons" to
17 explain why a project's impacts are not significant. *Nat'l Parks Conservation Ass'n v. Babbitt*,
18 241 F.3d 722, 730 (9th Cir. 2001) (internal citations omitted); *see also Save the Yaak Comm. v.*
19 *Block*, 840 F.2d 714, 717 (9th Cir. 1988).

20 247. An EIS must always be prepared if "substantial questions are raised as to
21 whether a project ... may cause significant degradation of some human environmental factor."
22 *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146, 1149 (9th Cir. 1998) (quoting *Greenpeace*
23 *Action v. Franklin*, 14 F.3d 1324, 1332 (9th Cir. 1992)).

24 248. CEQ's promulgation of the Final Rule is a "major Federal action" that
25 significantly affects the environment. The Final Rule severely limits federal agencies'
26 obligation to review environmental impacts under NEPA both by excluding federal actions

1 from environmental review and by limiting the scope of environmental reviews that do occur.
 2 These changes will cause federal agencies to overlook—and thus fail to address, avoid, or
 3 mitigate—their actions’ impacts, including significant impacts to State Plaintiffs’ natural
 4 resources, climate change, public health, and environmental justice. Projects with significant
 5 unstudied and undisclosed impacts will move forward with no or insufficient environmental
 6 review in violation of NEPA. Moreover, excusing agencies from considering cumulative
 7 impacts will result in agencies taking actions without fully understanding the impacts of those
 8 actions on climate change, overburdened and underserved communities, water and air quality,
 9 and sensitive, threatened, and endangered wildlife.

10 249. Under NEPA, CEQ was required to address the Final Rule’s significant
 11 environmental impacts and consider reasonable alternatives to the Final Rule in an EIS or, at a
 12 minimum, an EA. 42 U.S.C. § 4332(2)(C). CEQ did neither.

13 250. CEQ provided no legally sufficient justification—let alone a “convincing
 14 statement of reasons”—for failing to comply with NEPA in promulgating the Final Rule.
 15 *Babbitt*, 241 F.3d at 730; *see also Sierra Club v. Bosworth*, 510 F.3d 1016 (9th Cir. 2007).

16 251. CEQ’s failure to take a “hard look” at the environmental impacts of the Final
 17 Rule prior to its promulgation was arbitrary and capricious, an abuse of discretion, and
 18 contrary to the procedural requirements of NEPA and the APA. 5 U.S.C. § 706(2); 42 U.S.C.
 19 § 4332(2)(C). The Final Rule should therefore be held unlawful and set aside.

20 **SIXTH CAUSE OF ACTION**
 21 **Violation of the ESA and APA for Failing to Consult**
 22 **5 U.S.C. § 706(2)**

23 252. State Plaintiffs incorporate all preceding paragraphs by reference.

24 253. Section 7 of the ESA requires each federal agency to engage in consultation
 25 with the FWS or the NMFS when a proposed federal action “may affect a listed species or
 26 critical habitat.” 16 U.S.C. § 1536(a)(2); 50 C.F.R. §§ 402.12(a), (k), 402.14(a)–(b). This
 “may affect” threshold is low; and “any possible effect, whether beneficial, benign, adverse, or

1 of an undetermined character, triggers the formal consultation requirement.” *W. Watersheds*
 2 *Project v. Kraayenbrink*, 632 F.3d 472, 496 (9th Cir. 2011) (citing 51 Fed. Reg. 19,926, 19,949
 3 (June 3, 1986)) (brackets and internal quotation marks omitted).

4 254. Once consultation has been initiated, the federal agency is prohibited from
 5 “mak[ing] any irreversible or irretrievable commitment of resources with respect to the agency
 6 action which has the effect of foreclosing the formulation or implementation of any reasonable
 7 and prudent alternative measures[.]” 16 U.S.C § 1536(d). Where a federal agency is required
 8 to initiate consultation, but fails to do so, the agency is prohibited from proceeding with any
 9 activity that may affect a listed species or designated critical habitat until it complies with the
 10 consultation requirement. *Pac. Rivers Council v. Thomas*, 30 F.3d 1050, 1056–57 (9th Cir.
 11 1994).

12 255. Each “department, agency, or instrumentality of the United States” is a federal
 13 agency subject to the ESA. 16 U.S.C. § 1532(7).

14 256. Actions subject to the ESA include “all activities or programs of any kind
 15 authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States
 16 or upon the high seas.” 50 C.F.R. § 402.02. Such actions include the promulgation of
 17 regulations and all other actions directly or indirectly causing modifications to the land, water,
 18 or air. *Id.*

19 257. CEQ is a federal agency subject to the ESA.

20 258. Promulgation of the Final Rule is an action subject to the ESA.

21 259. Promulgation of the Final Rule “may affect” numerous listed species and the
 22 designated critical habitats upon which they rely, including but not limited to, by revising
 23 NEPA’s implementing regulations to: exclude certain actions from NEPA review; separate the
 24 definition of “major Federal action” from an action’s significance; expand the use of
 25 categorical exclusions; eliminate review of an agency action’s effects on listed species and
 26 designated critical habitat when analyzing the significance of an action; reduce the scope of

alternatives considered during environmental review; and direct agencies not to consider cumulative and indirect effects, including climate change impacts. Final Rule, 85 Fed. Reg. at 43,360, 43,365–66, 43,375 (to be codified at §§ 1501.3(b), 1501.4, 1502.14, 1502.15, 1508.1(g), (m), (q)). As such, CEQ’s rulemaking for the Final Rule triggered the consultation requirement set forth in section 7(a)(2) of the ESA. 16 U.S.C. § 1536(a)(2).

260. However, CEQ did not consult with the Services with regard to the Final Rule. Rather, CEQ concluded, without any basis or explanation, that the Final Rule would have “no effect” on listed species or designated critical habitat.

261. Once published, the Final Rule can no longer be revised as needed to ensure that it will not jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. As such, CEQ’s promulgation of the Final Rule constitutes an irreversible and irretrievable commitment of resources, which foreclosed the formulation or implementation of any reasonable and prudent alternative measures[.]” 16 U.S.C. § 1536(d). As a result of CEQ’s failure to initiate consultation, the ESA’s prohibition on the irreversible or irretrievable commitment of resources applies.

262. CEQ’s promulgation of the Final Rule without consulting with the Services, based on its conclusion that the Final Rule would have “no effect” on listed species, is arbitrary, capricious, and not in accordance with law, in violation of the ESA and the APA. 16 U.S.C. § 1536; 5 U.S.C. § 706(2)(A).

PRAYER FOR RELIEF

WHEREFORE, State Plaintiffs respectfully request that this Court:

1. Declare that CEQ violated NEPA and the APA by promulgating a Final Rule that is contrary to NEPA’s language and purpose and exceeds CEQ’s statutory authority;

1 2. Declare that CEQ violated the APA by promulgating a Final Rule that is
2 arbitrary, capricious, an abuse of discretion, and otherwise not in accordance with law and fails
3 to follow the procedures required by law;

4 3. Declare that CEQ violated NEPA and the APA by promulgating a Final Rule
5 without preparing an EA or an EIS evaluating the Final Rule's environmental and public health
6 impacts;

7 4. Declare that CEQ violated the ESA and the APA by promulgating the Final
8 Rule without first consulting with the Services regarding the effects that the Final Rule may
9 have on listed endangered and threatened species and designated critical habitat;

10 5. Vacate the entire Final Rule so that the 1978 regulations as amended and
11 associated guidance are immediately reinstated;

12 6. Enjoin CEQ from implementing, enforcing, or relying upon the Final Rule;

13 7. Award State Plaintiffs their costs, expenses, and reasonable attorneys' fees; and

14 8. Award such other relief as the Court deems just and proper.

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16 DATED this 23rd day of November, 2020.
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CERTIFICATE OF SERVICE

Case Name: **State of California, et al. v.
Council on Environmental
Quality, et al.**

No. **3:20-cv-06057**

I hereby certify that on November 23, 2020, I electronically filed the following documents with the Clerk of the Court by using the CM/ECF system:

FIRST AMENDED COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF

I certify that **all** participants in the case are registered CM/ECF users and that service will be accomplished by the CM/ECF system.

I declare under penalty of perjury under the laws of the State of California and the United States of America the foregoing is true and correct and that this declaration was executed on November 23, 2020, at Oakland, California.

Maritza Padilla
Declarant



Signature

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