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**From:** Ryan Beam <RBeam@biologicaldiversity.org>  
**Sent:** Friday, August 30, 2019 6:28 PM  
**To:** Wayland, Joshua; uinta.eis@icf.com  
**Cc:** Rutson, Vicki; Gosselin, Danielle  
**Subject:** Docket No. FD 36284 CBD et al Scoping Comments 8.30.19  
**Attachments:** CBD et al Uinta Basin Railway Scoping Comments 8.30.19.pdf

Dear Mr. Wayland and all,

Please see the attached scoping comments on Docket No. 36284 (Seven County Infrastructure Coalition-Rail Construction & Operation-in Utah, Carbon, Duchesne, and Uintah Counties, Utah) from the Center for Biological Diversity and other organizations. I will mail a flash drive containing another copy of the comments and pdfs of the referenced documents later today. Out of an abundance of caution I will also submit these comments via the STB's online portal.

Please acknowledge your receipt of these comments and let me know if you have any questions.

Thank you all very much for how you have conducted this comment period. You made participating in the commenting process clear and smooth.

Best,  
Ryan

Ryan Beam, *Public Lands Campaigner*  
CENTER for BIOLOGICAL DIVERSITY  
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Salt Lake City, UT  
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*via electronic mail and online portal*

August 30, 2019

Joshua Wayland  
Surface Transportation Board  
Office of Environmental Analysis  
c/o 9300 Lee Highway  
Fairfax, VA 22031  
[Joshua.Wayland@stb.gov](mailto:Joshua.Wayland@stb.gov)

**RE: Scoping Comments on Surface Transportation Board Docket No. FD 36284:  
Seven County Infrastructure Coalition-Rail Construction & Operation-in Utah, Carbon,  
Duchesne, and Uintah Counties, Utah**

Dear Environmental Protection Specialist Wayland,

On behalf of the members and staff of the Center for Biological Diversity, Grand Canyon Trust, WildEarth Guardians, Western Resource Advocates, Living Rivers, Argyle Wilderness Preservation Alliance, Utah Tar Sands Resistance, Sierra Club, Healthy Gulf, Salt Lake DSA, No Coal in Oakland, Southern Utah Wilderness Alliance, and the Utah Rail Passengers Association we are submitting the following scoping comments to the Surface Transportation Board (STB) in response to its June 20, 2019, Notice of Intent (NOI) to prepare an environmental impact statement (EIS) based on plans by the Seven County Infrastructure Coalition (SCIC) to file an application to construct and operate an approximately 80-mile rail line referred to as the Uinta Basin Railway (UBR) (Docket No. FD 36284, Seven County Infrastructure Coalition-Rail Construction & Operation-in Utah, Carbon, Duchesne, and Uintah Counties, Utah). These comments are submitted in an effort to aid the STB's Office of Environmental Analysis (OEA) in identifying issues that we believe must be addressed in the EIS. Please ensure that our comments are entered into the public record.

The Center for Biological Diversity is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. These scoping comments are submitted on behalf of the Center's 1.6 million staff, members, and online activists, including those that live in and enjoy visiting, studying, photographing, and hiking in the Uinta Basin and those adversely affected by oil and gas development in the region.

The mission of the Grand Canyon Trust is to safeguard the wonders of the Grand Canyon and the Colorado Plateau, while supporting the rights of its Native peoples. The Trust was established in 1985 and has over 3,000 members. It is a regional conservation organization with offices in Flagstaff, AZ, Durango and Denver, CO, and Salt Lake City and Moab, UT.

Living Rivers is a nonprofit organization with a mission to advocate for responsible management and protection of the Colorado River System. Living Rivers is located in Moab, UT, which is the county seat of Grand County, the western boundary of which is the Green River. Living Rivers has approximately 1,200 members in Utah, Colorado, and other states. In 2002, Living Rivers was designated as the Colorado Riverkeeper by the Waterkeeper Alliance, comprised of 200 affiliate "Waterkeepers" on six continents. Living Rivers' trustees, partners, and members live, work, and recreate on stretches of the Green, Price, Duchesne, and White Rivers downstream of all three of the proposed alternative routes of the Uintah Basin Railway, and on the public lands in Utah and Colorado that would be affected by construction and operation of the railroad.

WildEarth Guardians is a nonprofit environmental advocacy organization dedicated to protecting the wildlife, wild places, wild rivers, and health of the American West. On behalf of our members in Utah and across the West, Guardians has an interest in ensuring that federal agencies meaningfully and genuinely take into account the climate implications of their decisions, including objectively and robustly weighing the costs of authorizing the release of more greenhouse gas emissions known to contribute to global warming.

Utah Tar Sands Resistance is a grassroots organization of people determined to prevent the imminent threat of tar sands and oil shale strip mining in Utah and the Colorado Plateau region. These scoping comments are submitted on behalf of our 500+ members who believe the Colorado Plateau should be preserved in an undeveloped state for future generations of humans and animals.

Western Resource Advocates is a non-profit non-governmental public interest organization with staff and members who work and live throughout the West, including in Utah and Colorado. The mission of the organization, which opened its Utah office in 1998, is to protect the West's land, air, and water through education, research, and advocacy. In partnership with other public health and conservation groups, WRA has long worked to improve air quality in Utah, in part by advocating for the adoption of measures to reduce emissions, for better and more frequent monitoring of air pollution, and for stricter and more readily enforceable rules. With the goal of protecting air quality and other resource values, WRA has frequently commented on proposed projects that have consequences adverse to public and ecosystem health.

The Sierra Club was founded in 1892 and is the nation's oldest grassroots environmental organization. The Sierra Club is incorporated in California, and has approximately 780,000 members nationwide and is dedicated to the protection and preservation of the environment. The Sierra Club's missions is to explore, enjoy and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; and to educate and enlist humanity to protect and restore the quality of the natural and human environments. The Utah Chapter of the Sierra Club has approximately 5,400 members, including members who use the public lands in Utah and Colorado that would be affected by construction and operation of the Uinta Basin Railway for quiet recreation, aesthetic pursuits, and spiritual renewal.

The Southern Utah Wilderness Alliance, based in Salt Lake City, Utah, is a non-profit membership organization with more than 16,000 members, many of whom reside in Utah. The Alliance's mission is the preservation of the outstanding wilderness at the heart of the Colorado Plateau. To further this mission, the Alliance advocates for the management of wilderness-quality lands, and the associated natural and cultural resources, in their natural state for the benefit of all Americans. The Alliance promotes local and national recognition of the region's unique characteristics through research and public education, supports both administrative and legislative initiatives to permanently protect Utah's wild places, builds support for such initiatives on both local and national levels, and provides leadership within the conservation movement through uncompromising advocacy for wilderness preservation.

Argyle Wilderness Preservation Alliance is a nonprofit organization established to protect the Argyle Canyon, Avintaquin Canyon, and Emma Park areas of Duchesne, Carbon, and Utah Counties. We are comprised of over 400 landowners and their families who are dedicated to preserving and protecting the forest, wildlife, watershed, groundwater, all natural resources, and endangered and threatened plant and animal species in these areas. We are committed to protection of the wild, primitive, off-grid community lifestyle in our community, especially when threatened by large utility and infrastructure projects which continually seek to destroy the beauty and quiet enjoyment of these areas. We are also vested in assuring that government officials and government entities follow all applicable state and federal laws governing Open and Public Meetings, Government Records Access and Management, etc.

Salt Lake DSA is a local of Democratic Socialists of America, the largest socialist organization in the United States. To achieve a more just society, many structures of our government and economy must be radically transformed through greater economic and social democracy so that ordinary people can participate in the many decisions that affect our lives. We share a vision of a humane social order based on popular control of resources, production, economic planning, and equitable distribution.

With more than 25,000 members and supporters, Healthy Gulf has been committed since 1994 to uniting and empowering people to protect and restore the natural resources of the Gulf Region.

No Coal in Oakland is a grassroots organization campaigning to stop the threat of coal being transported by rail into Oakland, California for export overseas. The proposed Oakland Bulk and Oversized Terminal is opposed by the local community. The City Council banned its construction by unanimous vote. Its financing scheme depends on a promise of \$50,000,000 from the Utah Permanent Community Impact Board.

The Utah Rail Passengers Association works to promote the broader diversity of transportation options for residents of and visitors to Utah by educating citizens and policy makers about available transportation options.

In the sections that follow, we provide detailed comments on the multitude of direct, indirect, and cumulative impacts that the OEA must examine in its EIS on the UBR proposal. Failure to estimate and analyze the potential climate, air, wildlife, water, wilderness character, public safety, and other impacts of the UBR would violate the National Environmental Policy Act (NEPA). The EIS must provide agency decision makers with all the information necessary to evaluate whether the UBR is consistent with the public convenience and necessity; thoroughly examine viable alternatives and the no-action alternative; and weigh benefits of the action against the many environmental consequences and other costs.

The proposed UBR is the largest rail construction project in the United States in many decades, and would be constructed along one of three alternative routes: the 80-mile Indian Canyon route (“preferred route”), the 105-mile Wells Draw route, or the 185-mile Craig route.<sup>1</sup> The impact of constructing such a rail line in and of itself would be complex and immense, creating grave risks for lands and communities along any of the proposed rail routes. The implications of this proposal are particularly significant because of the project’s purpose to increase crude production in the Uinta Basin. While the NOI broadly states the project’s purpose is to “provide a new, cost-effective surface transportation option for shippers seeking to transport products and commodities,”<sup>2</sup> the UBR is specifically intended to facilitate transportation of crude oil that, absent the railway, would not be produced. Purportedly, the UBR would create a cheaper way to move Uinta Basin crude oil to new refineries and markets, resulting in increased oil production and transport of between 225,000 to 350,000<sup>3</sup> — or even as high as 500,000<sup>4</sup> — barrels of oil per day (bopd). This is an increase in oil production in the region by three or more times above the current effective limit of about 85,000 bopd.<sup>5</sup>

Expansion of oil development and production to this degree would unleash a flood of new dangerous oil trains onto the national rail network and would stand to create massive regional and global impacts. Regionally, increased oil and gas drilling and fracking enabled by the project would

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<sup>1</sup> Surface Transportation Board, Seven County Infrastructure Coalition—Rail Construction & Operation—in Utah, Carbon, Duchesne, and Uintah Counties, Utah, 84 Fed. Reg. 118, 28611-16, (June 19, 2019).

<sup>2</sup> *Id.*

<sup>3</sup> Jones & DeMille Engineering, Inc., Uinta Rail - RL Banks Report Details Memorandum (2019).

<sup>4</sup> Drexel Hamilton Infrastructure Partners, L.P. and Seven County Infrastructure Coalition, Memorandum of Understanding Regarding the Development of the Uinta Basin Railway (2019).

<sup>5</sup> SCIC, Uinta Basin Rail Line Planning Addendum to Project Description, pg. 3 (No Date).

exacerbate water scarcity and already detrimental air pollution due to existing oil and gas extraction. Globally, the project would contribute greatly to greenhouse gas emissions, accelerating the already incomprehensible impacts of climate change.

In short, we are deeply concerned about a project with harms of this scope and magnitude. If the SCIC files an application to construct and operate the UBR, we urge the STB to reject this application. In any event, the EIS should consider whether the UBR is “inconsistent with public convenience and necessity” to inform the weighing of alternatives, and whether each alternative meets the project’s purpose and need. Further, the EIS must analyze the direct impacts of constructing the railway, the consequences of increased oil and gas production in the Uinta Basin, and the project’s cumulative impacts.

### **I. The EIS Must Consider Whether the UBR Is Inconsistent with Public Convenience and Necessity**

The EIS should address whether each project alternatives meets the substantive standard for approving a railway project under the Interstate Commerce Act. The STB’s NOI acknowledges that “the project’s purpose and need should be informed by both the private applicant’s goals and the agency’s enabling statute—the Interstate Commerce Act as amended by the ICC Termination Act,”<sup>6</sup> including whether the construction of the railway is “inconsistent with the public convenience and necessity,” 49 U.S.C.A. §10901. Accordingly, the EIS’s alternatives analysis must evaluate whether each alternative, including the proposed project, is “inconsistent with the public convenience and necessity,” which is critical to weighing the project alternatives and whether they meet the STB’s purpose and need.

Historically, the STB and its predecessor the Interstate Commerce Commission have considered three factors in making public-convenience-and-necessity determinations: (1) whether the applicant is fit, financially and otherwise, to undertake the construction and provide rail service, (2) whether there is a public demand or need for the service, and (3) whether the competition would be harmful to existing carriers. *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1092 (9th Cir. 2011); *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 533 (8th Cir. 2003). The reviewing board can also draw conclusions from a “variety of circumstances.” *N. Plains Res. Council*, 668 F.3d at 1092 (citing *I.C.C. v. Parker*, 326 U.S. 60, 65 (1945)). Under the third factor, the STB has also considered whether “the proposal is in the public interest and will not unduly harm existing services.” *Id.* at 1093; *see also N.M. Navajo Ranchers Ass’n v. I.C.C.*, 702 F.2d 227, 230 (D.C. Cir. 1983) (noting public convenience and necessity entails consideration of “whether construction of the line is in the public interest”).

One other factor that must be considered is whether the proposed venture “would subject the communities directly affected to serious injury.” *See id.* at 232 (citing *Colorado v. United States*, 271 U.S. 153, 169 (1926)).

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<sup>6</sup> Surface Transportation Board, Seven County Infrastructure Coalition—Rail Construction & Operation—in Utah, Carbon, Duchesne, and Uintah Counties, Utah, 84 Fed. Reg. 118, 28611-16, (June 19, 2019).

The EIS must analyze each of these factors to inform whether each alternative meets the STB's purpose and need in ensuring projects are not inconsistent with public convenience and necessity. Numerous questions as to the project's financial fitness, public demand and need, and potential harm must be answered.

**a. Whether the Applicant is Fit, Financially and Otherwise, to Undertake the Construction and Provide Rail Service**

The financial fitness inquiry's principal concerns are that the "preservation of the earning capacity, and conservation of the financial resources, of individual carriers, is a matter of national concern; that the property employed must be permitted to earn a reasonable return; that the building of unnecessary lines involves a waste of resources, and that the burden of this waste may fall upon the public." *Northern Plains*, 668 F.3d at 1093, (citing *Texas & P. Ry. Co. v. Gulf, C. & S.F. Ry. Co.*, 270 U.S. 266, 277 (1926)). This inquiry "should consider the protection of the public, the carriers, and existing shippers." *Id.* Further, it should be supported by "detailed financial analysis, taking into account construction costs, financing and operating revenues." *See id.*; *New Mexico Navajo Ranchers Ass'n v. I.C.C.*, 702 F.2d 227, 232 (D.C. Cir. 1983) (invalidating board approval that failed to inquire into the full financial scope of the proposed venture, including costs and revenue estimates, which applicant was required to submit but did not). This information is "critical" to demonstrating the applicant's proposal "in the reasonably near future will be self-sustaining." *Id.* at 229 (citing *Illinois Cent. R.R. v. Norfolk & W. Ry.*, 385 U.S. 57, 66-67, (1966)).

The EIS should detail the construction, maintenance, and operation costs of each route, and provide supporting documentation. The most recent cost estimates for construction of the three routes being considered are \$1.2 billion, \$2.1 billion, and \$1.4 billion for the Indian Canyon, Wells Draw, and Craig routes respectively.<sup>7</sup> However, a 2015 study by the Utah Department of Transportation estimated the cost of a route similar to the preferred route at around \$4.5 billion,<sup>8</sup> calling the SCIC's cost projections into serious doubt. The report concluded that "Based on the project's construction cost, UDOT determined that only two high-production scenarios would result in a positive return on investment. The two high-production scenarios would require that oil shale and sands technology be proven [and] that the price of oil remain above \$85 a barrel..."<sup>9</sup> Currently, these two assumptions are not met with crude oil at around \$57 per barrel,<sup>10</sup> and no profitable oil shale or tar sands developments operating in the Uinta Basin with consistency or at any significant scale. The report continued:

The feasibility study showed that two alignments would be feasible to construct, with Alternative 2 through along U.S. 191 being preferred by UDOT. Nonetheless, on December 1, 2014, Uintah and Duchesne Counties informed UDOT of their

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<sup>7</sup> No Author, Uinta Basin Railway Strategic Communications Plan (2019).

<sup>8</sup> Utah Department of Transportation, Uinta Basin Railroad Feasibility Study Summary Report (2015).

<sup>9</sup> *Id.* at 39

<sup>10</sup> Bloomberg Energy, Markets Energy, WTI Crude Oil (Nymex) Available at: <https://www.bloomberg.com/energy> (Date accessed: August 1, 2019).

determination that the return on investment for the rail line was insufficient to justify the \$4.5-billion construction cost. The Counties also concluded that the \$300 million in upfront cost to the owner to plan and implement construction was too costly. Consequently, a notice of intent to prepare an EIS for the UBRR was never released.<sup>11</sup>

The determination from just four years ago that the project was not financially feasible raises serious questions as to why, when conditions seem to remain relatively similar, the calculus has changed. If the reason is that the estimated cost of the project is more than three times lower now, the OEA must demand detailed information about how that is possible and should not take the word of the project proponents or any company they have hired to do such studies since the SCIC and such companies may be incentivized to underestimate the project costs. One indication that the SCIC may be vastly underestimating project costs is that the U.S. Bureau of Land Management (BLM) recently requested \$4.6 million from the SCIC to complete baseline studies for the EIS,<sup>12</sup> or over nine times the SCIC's cost allocation for baseline studies for all federal cooperating agencies (BLM, U.S. Forest Service, and Bureau of Indian Affairs).<sup>13</sup>

The EIS should also detail how the project costs would be financed by the public and by private parties, and whether the public or taxpayers would be on the hook for any losses if the project were to fail. *See Northern Plains*, 668 F.3d at 1093 (requiring consideration of whether “building of unnecessary lines involves a waste of resources, and that the burden of this waste may fall upon the public” (citing *Texas & P. Ry. Co.*, 270 U.S. at 277)). The project proponents asserted that as of June 13, 2019 the project would likely not have gone forward without public funding provided by the Utah Permanent Community Impact Board (CIB),<sup>14</sup> raising questions over the financial viability of the project. While the CIB has allocated \$27.9 million toward the project, this will only cover a very small portion of the total costs. The SCIC has or will purportedly enter into a private partnership with Drexel Hamilton, Infrastructure Partners, L.P. (Drexel Hamilton)<sup>15</sup> to finance the remaining costs of the project, but the details of that arrangement remain a mystery and must be disclosed. The EIS should also address to what extent other state or federal funding would finance the project.

The EIS should also detail the projected operating revenues of the railway. As raised by Zions Bank, which reviewed a preliminary financial feasibility study for the railway, an adequate accounting of projected revenues and the project's financial fitness should consider:

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<sup>11</sup> Utah Department of Transportation, Uinta Basin Railroad Feasibility Study Summary Report (2015).

<sup>12</sup> Comment by Mike McKee starting at approximately 50:00 into recording of July 3, 2019 Seven County Infrastructure Coalition Board meeting. Available at: <http://scic-utah.org/storage/app/uploads/public/5d2/34d/71d/5d234d71de910363687002.mp3>.

<sup>13</sup> Community Impact Board, Photo of projected document from June 13, 2019 meeting (2019a); Seven County Infrastructure Board, Photo of projected document from July 3, 2019 meeting (2019b).

<sup>14</sup> Comment by Mike McKee starting at approximately 3:20:49 into recording of June 13, 2019 Utah Permanent Community Impact Board meeting. Available at: <https://jobs.utah.gov/media/housing/cib/061319cib.mp3>

<sup>15</sup> CIB, Comment by Mike McKee at 1:27:25 in minutes of June 13, 2019 Utah Permanent Community Impact Board meeting. Available at: <https://jobs.utah.gov/housing/community/cib/documents/061319cibminutes.pdf>; Drexel Hamilton Infrastructure Partners, L.P. and Seven County Infrastructure Coalition, Memorandum of Understanding Regarding the Development of the Uinta Basin Railway (2019b).

- Variations in the price of oil and its demand, which could reduce or stop shipping, and how this would impact repayment of the construction loan. Zions recommended “planning be in place for a scenario if oil and gas prices go down to the levels they were from 2015 through 2017 and verification that loan repayment can still be achieved.”<sup>16</sup>
- A realistic timeline for approval and construction of the project: Current projections that the project could be up and running by 2022 are “very unrealistic,” given that “the average STB permitting process for a project takes nearly 3 years to complete, some of which may take longer.”<sup>17</sup>
- Whether out-of-state refineries have existing capacity to accept new sources of crude, have access to cheaper crude sources than Uinta Basin waxy crude, and have the capacity to refine waxy crude with their existing equipment and processes; and if not, whether the need to retool out-of-state refineries may impact the price of waxy crude and its demand.<sup>18</sup>
- Uncertainties as to whether increased oil production and demand for the rail would materialize, and if projected oil production increases and shipping demands are not met, how this will impact the SCIC’s loan repayment ability.<sup>19</sup> Indeed, a vast range of estimates as to how much crude oil would be shipped via this project strongly suggests its speculative nature, casting significant doubt on the project’s financial feasibility. These figures range from 80,000 to 225,000 to 350,000 to 500,000 barrels per day.<sup>20</sup>

These questions should also inform whether the project will meet the SCIC’s purpose and need of increasing crude oil production in the basin.

The EIS must also analyze whether the SCIC’s private partner Drexel Hamilton and Drexel Hamilton’s proposed operating partner Rio Grande Pacific Corporation are fit to finance, construct, and operate the project. For a project that centers around a single commodity — crude oil (see the “Conventional Crude Oil” section of these comments) — the EIS should explain how the project has demonstrated financial resilience and how it is accounting for the financial risks<sup>21</sup> and liabilities<sup>22</sup> of climate change and associated uncertainty in fossil fuels markets and investments.

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<sup>16</sup> Zions Public Finance on the RL Banks Pre-Feasibility Study (No Date) at 3; *see also id.* at 7 (noting declines in global demand due to perceived risks from trade disputes and other concerns)(No Date).

<sup>17</sup> *Id.* at 2-3, 7.

<sup>18</sup> *See id.* at 4, 5, 6, 7.

<sup>19</sup> *Id.* at 8.

<sup>20</sup> Compare July 3, 2019 SCIC Meeting Audio at 1:29:00, available at <http://scic-utah.org/storage/app/uploads/public/5d2/34d/71d/5d234d71de910363687002.mp3> 1:29:00 (SCIC’s executive director stating “market conditions will actually dictate what [the increase in oil production] actually is and I don’t know, really at that point you could say I believe on the low end Mark told me we’re probably going to have at least 80,000 barrels to make the rail...” ) with RL Banks Pre-Feasibility Study at 17 (noting 225,000 and 350,000 bpd low and high forecasts) & Drexel Hamilton and SCIC MOU regarding Development of the Uinta Basin Railway (May 2019) (noting parties’ intention to develop rail with capacity of 500,000 bpd).

<sup>21</sup> Network of Central Banks and Supervisors for Greening the Financial System (NGFS), A call for action Climate change as a source of financial risk (2019) available at: [https://www.banque-france.fr/sites/default/files/media/2019/04/17/ngfs\\_first\\_comprehensive\\_report\\_-\\_17042019\\_0.pdf](https://www.banque-france.fr/sites/default/files/media/2019/04/17/ngfs_first_comprehensive_report_-_17042019_0.pdf)

A potentially multi-billion-dollar project, for which the public must bear a significant portion of the capital cost without adequate assurance the project will eventually pay for itself is inconsistent with public convenience and necessity.

**b. Public Demand and Need for the Service**

A second consideration as to public convenience and necessity closely related to the financial fitness inquiry is whether there is public demand and need for the service. Tellingly, the Utah Rail Passengers Association, which ostensibly represents the most common use of rail by members of the general public, has come out against the project saying that it will serve a single industry and not the wider needs of Uinta Basin residents.<sup>23</sup> Furthermore, that crude producers and private developers have been unwilling to develop this project on their own (without the help of significant public financing), and have found other means to ship crude oil to out-of-state refineries, suggests public demand and need does not exist. In recent years, several new transloading facilities for the transfer of oil from trucks to oil trains have cropped up in Utah.<sup>24</sup> The EIS should address whether these existing facilities are at full capacity, or how much capacity currently exists and why it remains unused. The creation of a new rail line where unused shipping capacity already exists is inconsistent with public convenience and necessity.

**c. Whether the Proposal is in the Public Interest and Will Not Unduly Harm Existing Services**

The third factor of the public convenience and necessity determination entails consideration of the public interest and the impact on existing services or carriers. Specifically, this factor requires considering whether direct competitors of the proposed rail line, such as existing trucking and transloading facilities would be harmed by the project. The EIS must analyze the extent to which new

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; Buckley, Tim, T. Sanzillo, and K. Shah, Institute for Energy Economics and Financial Analysis, Inaction is BlackRock's Biggest Risk During the Energy Transition Still Lagging in Sustainable Investing Leadership (2019). Available at: [http://icefa.org/wp-content/uploads/2019/07/Inaction-BlackRocks-Biggest-Risk-During-the-Energy-Transition\\_August-2019.pdf](http://icefa.org/wp-content/uploads/2019/07/Inaction-BlackRocks-Biggest-Risk-During-the-Energy-Transition_August-2019.pdf); McLean, Bethany, The Next Financial Crisis Lurks Underground

Fueled by debt and years of easy credit, America's energy boom is on shaky footing (2018). Available at: <https://www.nytimes.com/2018/09/01/opinion/the-next-financial-crisis-lurks-underground.html>

<sup>22</sup> Hijazi, Jennifer, E&E News, Climate liability is on the rise. Here's what it looks like (2019). Available at: <https://www.eenews.net/climatewire/2019/08/05/stories/1060850731>

<sup>23</sup> Utah Rail Passengers Association, Uinta Basin Railway Proposal Rejected by Utah Rail Passengers Association (2019). Available at: [https://utahrpa.org/images/pdfs-doc/News/20190722\\_Uinta\\_Basin\\_Railway\\_Proposal.pdf](https://utahrpa.org/images/pdfs-doc/News/20190722_Uinta_Basin_Railway_Proposal.pdf)

<sup>24</sup> Tabet, David, Energy News: Development of New Markets for Uinta Basin Crude Via Rail, Utah Geological Survey, Survey Notes, v. 47 no. 1 (2015). Available at: <https://geology.utah.gov/map-pub/survey-notes/energy-news/energy-news-crude-oil-via-rail/>, (six new oil transloading facilities as of 2015); Price River Terminal, Price River Terminal Fact Sheet (No Date). Available at <http://priceriverterminal.com/phone/index.html> (terminal in Wellington, Utah with 45,000 barrel per day transloading capacity); Maffly, Brian, New 4,000-well drilling project proposed for Uinta Basin, Salt Lake Tribune (April 11, 2016). Available at: <https://www.sltrib.com/news/environment/2016/04/11/new-4000-well-drillingproject-proposed-for-uinta-basin/> (Uinta Basin oil and gas well project plans to use Wellington transloading facilities); Savage, Transloading Makes Shipping Dependable, Efficient, and Affordable (2018). Available at: <https://www.savageservices.com/wp-content/uploads/2018/10/White-Paper-How-Can-Transloading-Save-You-Time-and-Money.pdf> (three transload facilities operated by Savage in Utah).

rail service could divert customers from these existing services and facilities and the impact on their workers.

#### **d. Serious Injury to Communities**

Another relevant concern is whether a proposed venture “would subject the communities directly affected to serious injury.” *See New Mexico Navajo Ranchers*, 702 F.2d at 231 (citing *Colorado v. United States*, 271 U.S. 153, 169 (1926)). Federal statutes “help define the types of injuries from which [the Board] must strive to protect local communities.” *Id.* To the extent federal policies to protect surrounding communities would be undermined by the project, the STB must consider these federal policies. *See id.* at 248 n.7; *see also id.* at 231 (holding allegations of misconduct to obtain consent to right-of-way over Indian lands undermined policies embodied in American Indian Religious Freedom Act and National Historic Preservation Act and should have been considered in agency’s public convenience and necessity determination); *id.* at 232 (agency must “draw its conclusion from the infinite variety of circumstances which may occur in specific instances” (citing *ICC v. Parker*, 326 U.S. 60, 65 (1945))).

Here, the project threatens serious injury to Uinta Basin communities and harms the public interest by undermining the Mineral Leasing Act and its policies. In November 2018 and June 2019, the Utah Community Impact Board allocated \$27.9 million for the Uinta Basin Rail project. SCIC intends to use the funds for technical studies for the project and options to acquire right-of-way easements. Ultimately, it hopes that construction and operation of the railway will increase crude oil production in the Uinta Basin. The misuse of these funds to spur increased fossil fuel development and benefit private industry undermines Congress’s intent to alleviate the impacts of federal mineral development on local communities, and would only augment these impacts. Specifically, these funds are limited to “planning,” “construction or maintenance of public facilities,” or “providing a public service,” such as police, fire, health care, schools, roads, utilities, and local community planning to mitigate the boom and bust cycle effects of fossil fuel development.<sup>25</sup>

The misuse of federal mineral leasing funds to develop a rail line in direct conflict with Congress’ intent results in a “serious injury” to local communities. It deprives them of sorely needed funds for public services and facilities, and will worsen already severe socioeconomic and pollution burdens. These harms are inconsistent with public convenience and necessity, and the STB should not sanction this misuse of federal money. The EIS should disclose this inconsistency and any other ways in which the project undermines federal policies for the protection of local communities.

## **II. Range of Alternatives**

### **a. Pipeline Alternative**

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<sup>25</sup> 30 U.S.C. § 191(a); *see also* Center for Biological Diversity et al., Re: The Community Impact Board’s Funding of the Uinta Basin Railway Project (June 12, 2019) (reviewing statutory language and legislative history of Mineral Leasing Act).

We suggest that the OEA also consider an alternative in addition to the no-action alternative and the alternatives for the three proposed rail routes that would examine the impacts of the construction of a pipeline instead of a railway. While this alternative would not lessen many of the impacts of the project, it would fulfill the true purpose of the project, transporting crude oil, while ameliorating certain impacts such as air pollution from diesel locomotives (*see* the “Air Quality” section of these comments) and impacts due to rail safety and other considerations (*see* “Train Impacts” section of these comments). The proposed development of the Uintah Advantage Refinery near the terminus of the Uinta Basin Railway (*see* the “Refined Oil Products” section of these comments), would make transportation of Uinta Basin oil via a pipeline more feasible after it has been processed.

#### **b. Solutionary Rail Alternative**

We suggest that the OEA also consider an alternative in addition to the no-action alternative and the alternatives for the three proposed routes. This alternative, which we suggest be called the “Solutionary Rail alternative,” would apply to each of the alternatives for the three routes under consideration. This alternative would apply the principles and proposals referred to collectively as “Solutionary Rail”<sup>26</sup> to the UBR proposal. This initiative, centered around electrifying rail corridors, would create benefits for workers, communities, and the environment. While this alternative would not lessen many of the impacts of the project, it would fulfill the stated purpose and need for the project while ameliorating certain impacts such as air pollution from diesel locomotives (*see* the “Air Quality” section of these comments) and some impacts due to rail safety and other concerns (*see* “Train Impacts” section of these comments).

### **III. Rail Safety and Train Impacts**

#### **a. Train Characteristics**

The EIS must thoroughly examine all available information about the characteristics of the trains that could travel on the UBR. In order to sufficiently examine the potential impacts of the project, the best available information about how many trains, with how many cars, carrying what products, along which routes, and to which destinations must be presented. The EIS should include full, unredacted versions of the R.L. Banks Pre-Feasibility Analysis,<sup>27</sup> the Draft Operating Basis of Design,<sup>28</sup> and any other documents that provide information on the predicted characteristics of trains traveling on the UBR. It is critically important that this information be made available to land owners and members of communities that would be impacted by these trains. In general, no guarantees have been made that any restrictions in addition to notoriously lax federal standards would be placed on trains traveling on the UBR and subsequently entering the national rail network.

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<sup>26</sup> Moyer, Bill and Patrick Mazza, *Solutionary Rail: A people-powered campaign to electrify America's railroads and open corridors to a clean energy future* (2016). Available at: <https://www.solutionaryrail.org/>

<sup>27</sup> R.L. Banks & Associates, Inc and Helios Group Inc., *Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network* (2018).

<sup>28</sup> Seven County Infrastructure Coalition, *Draft Operating Basis of Design* (2019a).

## **i. Train Contents**

The EIS must communicate the best possible understanding of the products that could travel along the UBR and subsequently into the national rail network for as long as the rail is predicted to be in service. What products could be transported along the railway and the conditions under which those products might be transported strongly informs what the potential impacts of the project will be. The characteristics and risks associated with each of these products must be fully understood and presented in the EIS.

### **1. Inbound Products**

Products shipped into the Uinta Basin via the UBR are predicted to include, “major oil industry inputs includ[ing] fracturing sand/proppant, tubular steel, and oil industry machinery.”<sup>29</sup> The various risks associated with each of these and any other materials, including other industrial chemicals used by fossil fuel producers, that might travel into the basin along the UBR must be understood and presented in the EIS. Risks associated with empty manifest trains<sup>30</sup> must also be included.

### **2. Outbound Products**

Products shipped out of the Uinta Basin and onto the national rail network via the UBR are predicted to potentially include conventional Uinta Basin waxy crude oils, synthetic crude oil from oil shale, refined oil products, sodium bicarbonate, fly ash, gilsonite,<sup>31</sup> and agricultural commodities.<sup>32</sup> The various risks associated with each of these and any other materials, including bitumen (from tar sands) and liquefied natural gas (LNG), that might travel out of the basin along the UBR and onto the national rail network must be understood and presented in the EIS. The EIS must also present information about the various conditions under which each of these products might be transported and the risks associated with those various methods.

#### **a) Conventional Crude Oil**

All indications point to the fact that the primary purpose of the UBR would be to transport conventional waxy crude oil out of the Uinta Basin. If such oil was shipped in the quantities predicted, between 225,000 and 350,000 barrels of oil per day (bopd),<sup>33</sup> most, if not all, of the trains leaving the Uinta Basin, at least in the early years of operation, would be unit trains of crude oil. One DOT-111 oil train car carries approximately 29,000 gallons, or 691 barrels of oil.<sup>34</sup> The UBR would

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<sup>29</sup> Hemphill, Mark, March 19 email to Joshua Wayland and other, Subject: Uinta Basin Railway – Trains Per Day Estimate (2019).

<sup>30</sup> R.L. Banks & Associates, Inc and Helios Group Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network, 4. Inbound, Empty, Manifest Trains (2018).

<sup>31</sup> *Id.* at 2.6 Outbound Commodities.

<sup>32</sup> Hemphill, Mark, March 19 email to Joshua Wayland and other, Subject: Uinta Basin Railway – Trains Per Day Estimate (2019).

<sup>33</sup> Jones & DeMille Engineering, Inc., Uinta Rail - RL Banks Report Details Memorandum (2019).

<sup>34</sup> Greenbrier Companies, 29,000 Gallon Tank Car (2013).

carry approximately 3.5 outbound trains per day on average each with either 95<sup>35</sup> or 110<sup>36</sup> cars per train, for a capacity of between about 230,000 to 266,000 bopd.

Uinta basin waxy crude oils are hazardous materials (see for example Safety Data Sheet for Uinta Basin Black Wax Crude Oil<sup>37</sup>). While the waxy crude oils of the Uinta Basin are relatively non-flammable and non-explosive, they still pose risks that must be understood and considered in the EIS. The EIS should contain information on the impacts a spill of these crude oils into a waterway or a populated area would have, along with information on the various conditions under which these crude oils might be transported. The OEA should understand the temperatures that such oils might travel at and how long after being loaded into train cars these oils will stay above their pour points. The EIS should contain information about the impacts of reheating facilities used if these oils are allowed to cool down during transit and whether any methods might ever be used to change the characteristics of these oils, making them easier to move but potentially increasing their flammability and explosivity. The OEA should further understand what kind of concerns sloshing creates when the oil is in a liquid state<sup>38</sup> and what vapor pressures tanks cars filled with these oils typically exhibit.<sup>39</sup> The OEA should consider the potential impacts resulting from whether or not any regulations on vapor pressure would be put in place. Regulations recently passed in Washington state<sup>40</sup> could be used as a model when considering the effect of such regulations on potential impacts of the UBR. Though it should be noted that the Federal Railroad Administration (FRA) was urged to<sup>41</sup> and is considering preempting<sup>42</sup> those safeguards, effectively removing them. Presumably any regulations that may be implemented in the state of Utah would meet the same fate.

#### **b) Synthetic Crude Oil from Oil Shale (Kerogen)**

Under a high volume forecast scenario, the UBR is predicted to begin transporting petroleum-like synthetic crude oil produced from the kerogen in oil shale via a process called retorting, namely from the Enefit project, by 2026.<sup>43</sup> Before being loaded onto the UBR, this product may also undergo a second process, called upgrading, where the synthetic oil is heated in the presence of hydrogen and a chemical catalyst to reduce its sulfur and nitrogen content and produce a refinery-ready petroleum feedstock. The Uinta Basin is thought to contain around 77 billion barrels

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<sup>35</sup> R.L. Banks & Associates, Inc and Helios Group Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network, 1. Loaded Unit Trains (2018).

<sup>36</sup> Jones & DeMille Engineering, Inc., Uinta Rail - RL Banks Report Details Memorandum (2019).

<sup>37</sup> LINN Energy, Safety Data Sheet according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and GHS (2013).

<sup>38</sup> Mikulka, Justin, *Sloshing*, in Bomb Trains, pgs. 96-104, 176 (2019a).

<sup>39</sup> *Id.* at Regulators Considering Vapor Pressure Regulation, in Bomb Trains, pgs. 59-60 (2019a).

<sup>40</sup> Washington State Legislature, Engrossed Senate Bill 5579, Crude Oil by Rail—Vapor Pressure (2019). Available at: <https://app.leg.wa.gov/billsummary?BillNumber=5579&Year=2019&Initiative=false>

<sup>41</sup> Dillon, Jeremy, Republicans push DOT to quash Wash. crude-by-rail law, E&E News (2019). Available at: <https://www.eenews.net/eenewspm/2019/08/08/stories/1060888851>

<sup>42</sup> Pipeline and Hazardous Materials Safety Administration, Hazardous Materials: The State of Washington Crude Oil By Rail—Vapor Pressure Requirements, 84 Fed. Reg. 156, 40128-40129 (2019a). Available at: <https://www.govinfo.gov/content/pkg/FR-2019-08-13/pdf/2019-17255.pdf>

<sup>43</sup> R.L. Banks & Associates, Inc and Helios Group Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network, 2.8 Shale Oil - Enefit (2018).

of oil shale resources.<sup>44</sup> The EIS must understand the potential risks and impacts of transporting these products via the UBR and onto the national rail network.

### **c) Tar Sands, Bitumen, and Diluted Bitumen (Dilbit)**

The Uinta Basin is also home to multiple operations attempting to commercialize tar sands development. If these operations do ever become viable, the UBR may also transport the produced bitumen. The Uinta Basin is thought to contain around 14 billion barrels of tar sands resources.<sup>45</sup>

In order to make transportation of bitumen on trains easier, it is commonly thinned out with diluents such as natural gasoline or condensates. This diluted bitumen or “dilbit” is notoriously dangerous when shipped by rail.<sup>46</sup>

The EIS must also consider the potential impacts of spills of bitumen, particularly into waterways, due to its relatively low American Petroleum Institute gravity, meaning that it may sink in water, making cleanup significantly more challenging.

### **d) Liquefied Natural Gas (LNG)**

The Uinta Basin produces significant quantities of natural gas and production is expected to increase, with 550 permits recently approved or in the approval process as of 2019.<sup>47</sup> Efforts are underway to export the region’s natural gas to global markets, namely in Asia. While the proposed Pacific Connector Pipeline and Jordan Cove LNG terminal could move and export natural gas from the Uinta and Piceance Basins, those projects are far from certain to be built. The OEA should understand how producers plan to get their product to market if the region’s natural gas production increases but pipeline capacity doesn’t and the likelihood that there would be attempts to ship such gas as LNG via the UBR. The industry has been pushing for LNG-by-rail in recent years<sup>48</sup> and the Pipeline and Hazardous Materials Safety Administration is currently reviewing an application for a permit for 100-car-long LNG unit trains.<sup>49</sup> At the July 16, 2019 public scoping meeting for the UBR, Greg Miles, a Duchesne county commissioner and member of the SCIC board, was quoted as saying, “The rail line is important for Moffat County to move their natural gas to the Jordan Cover (Energy)

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<sup>44</sup> Vanden Berg, Michael, Utah Geological Survey, Utah Division of Natural Resources, Basin-Wide Evaluation of the Uppermost Green River Formation’s Oil-Shale Resource, Uinta Basin, Utah and Colorado (2008).

<sup>45</sup> Blackett, Robert, Utah Geological Survey, Utah Division of Natural Resources, Tar-Sand Resources of the Uinta Basin, Utah (1996).

<sup>46</sup> Thomas, David, Why Bitumen isn’t necessarily safer than Bakken, Railway Age (2015). Available at: <https://www.railwayage.com/regulatory/why-bitumen-isnt-necessarily-safer-than-bakken/>; Mikulka, Justin, Tar Sands by Rail Disasters: The Latest Wave in the Bomb Train Assault, Desmog (2015). Available at: <https://www.desmogblog.com/2015/03/09/tar-sands-rail-disasters-latest-wave-bomb-train-assault>;

<sup>47</sup> Research Partnership to Secure Energy for America (RPSEA) and Mercator Energy, A Report on Natural Gas Markets for the Western States and Tribal Nations (2019).

<sup>48</sup> Mikulka, Justin, US Poised to Approve Shipping LNG by Rail for Export With No New Safety Rules, Desmog (2019b). Available at: <https://www.desmogblog.com/2019/06/14/energy-transport-solutions-phmsa-special-permit-lng-rail-export>

<sup>49</sup> Pipeline and Hazardous Materials Safety Administration, Hazardous Materials Safety: Notice of Availability of the Draft Environmental Assessment for a Special Permit Request for Liquefied Natural Gas by Rail, 84 Fed. Reg. 109 (2019b). Available at: <https://www.govinfo.gov/content/pkg/FR-2019-07-09/pdf/2019-14532.pdf>

Project and it's equally important to our county.”<sup>50</sup> The EIS must understand and take into account the potential risks and impacts of transporting LNG via the UBR and onto the national rail network.

### **e) Refined Oil Products**

Products refined at the proposed 40,000 bopd Uintah Advantage Refinery and headed initially to Oakland, California and Houston, Texas are predicted to be shipped via the UBR starting in 2022.<sup>51</sup> The refinery would “...process locally-produced yellow and black wax crude into naphtha, pitch, lube-oil base, low-sulfur diesel and other refined petroleum products.”<sup>52</sup> The EIS must understand and take into account the potential risks and impacts of transporting these refined oil products and any others that may be produced in the Uinta Basin and shipped via the UBR and onto the national rail network.

### **ii. Train Routes and Destinations**

It is critically important that the EIS include robust information on the routes and destinations that each product that would potentially be shipped via the UBR is likely to travel (see Maps 1-2, 4-1, and 4-2 in ). Landowners and area residents along these routes must be made aware of the potential costs and risks that they face so that they can have the opportunity to comment on the UBR EIS in an informed manner. People who face these potential costs and risks deserve to be informed.

#### **1.Incoming Trains**

Trains entering the Uinta Basin via the UBR from “highly diffuse” origins<sup>53</sup> are predicted to carry products discussed in the above “Inbound Products” section. The EIS must understand the costs and risks associated with shipping these and any other products along routes traveling into the Uinta Basin from destinations listed in and depicted in maps in the R.L. Banks Pre-Feasibility Analysis,<sup>54</sup> listed in any analyses conducted by HDR,<sup>55</sup> and any other locations that products may travel from.

#### **2.Outgoing Trains**

Trains leaving the Uinta Basin via the UBR are predicted to carry products discussed in the above “Outbound Products” section. The EIS must understand the costs and risks associated with shipping these and any other products along routes traveling into the Uinta Basin from destinations

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<sup>50</sup> Thorp, Clay, Feds looking for public input on Uinta Basin Railway, proposed route through Moffat County, Craig Press (2019). Available at: <https://www.craigdailypress.com/news/feds-looking-for-public-input-on-uinta-basin-railway-proposed-route-through-moffat-county/>

<sup>51</sup> R.L. Banks & Associates, Inc and Helios Group Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network, 2.9 Refined Oil Products – Uintah Advantage (2018).

<sup>52</sup> Utah Division of Water Quality, Utah Department of Environmental Quality, Public Notice of Issuance of Ground Water Discharge Permit Permit No. UGW470005 (2019).

<sup>53</sup> Hemphill, Mark, March 19 email to Joshua Wayland and other, Subject: Uinta Basin Railway – Trains Per Day Estimate (2019).

<sup>54</sup> R.L. Banks & Associates, Inc and Helios Group Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network (2018).

<sup>55</sup> Hemphill, Mark, March 19 email to Joshua Wayland and other, Subject: Uinta Basin Railway – Trains Per Day Estimate (2019).

listed in and depicted in maps in the R.L. Banks Pre-Feasibility Analysis,<sup>56</sup> listed in any analyses conducted by HDR,<sup>57</sup> and any other locations that products may travel from. As part of this understanding, the EIS must list every existing and proposed refinery that could accept Uinta Basin waxy crude oils, as well as those that could handle bitumen or synthetic oils from oil shale produced in the Uinta Basin region. It should be noted that, given the properties of Uinta Basin waxy crude oils, most refineries in North America could and many may desire to utilize such oils in some amount in the blend of oils they process. In this respect, the EIS should analyze the potential impacts of trains carrying Uinta Basin waxy crude oils to an appropriately wide array of possible destinations.

#### a) Tallgrass Crude Oil Export Terminal

While public records requests seeking more information are currently pending in Utah and Louisiana, the UBR seems to be tied to the proposed Tallgrass Crude Oil Export Terminal (Tallgrass terminal) in Plaquemines Parish, Louisiana, also known as the Plaquemines Liquids Terminal.<sup>58</sup> The EIS should confirm whether or not this is the case. If oil trains originating from the UBR are likely to feed this export terminal, the EIS must analyze the terminal's potential impacts, including to Louisiana's coastal restoration efforts and the health of its communities.

Drexel Hamilton, the firm commercializing and financing the UBR,<sup>59</sup> is also financing the Tallgrass Terminal as well as an associated rail expansion in the town of Gretna, Louisiana. According to the firm's website, their employee Mark Michel is working on both the UBR and Tallgrass terminal.<sup>60</sup>

The Tallgrass terminal would be built outside the protection of the federal levee system on land that is literally sinking into the ocean. The map below (Fig. 1) shows projected land loss in Plaquemines Parish over the next 50 years. The Tallgrass terminal would be halfway between Belle Chasse and Pointe a la Hache.

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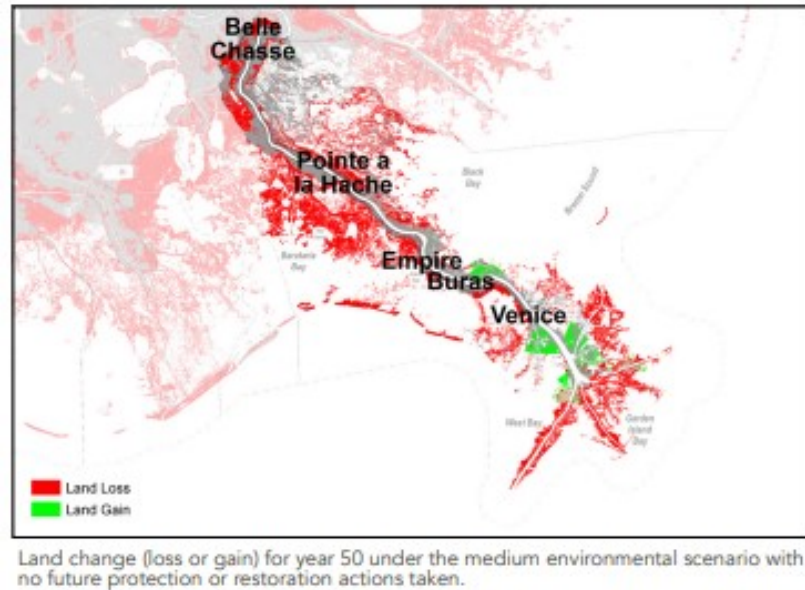
<sup>56</sup> R.L. Banks & Associates, Inc and Helios Group Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network (2018).

<sup>57</sup> Hemphill, Mark, March 19 email to Joshua Wayland and other, Subject: Uinta Basin Railway – Trains Per Day Estimate (2019).

<sup>58</sup> Schleifstein, M., Oil export terminal next to proposed Mid-Barataria Sediment Diversion gets state's initial OK, The Times-Picayune (2019). Available at: [https://www.nola.com/news/environment/article\\_f81343f8-43e9-53de-ba92-449d6fded314.html](https://www.nola.com/news/environment/article_f81343f8-43e9-53de-ba92-449d6fded314.html)

<sup>59</sup> Vantuono, W.C., Railway Age, Hemphill Heading Uinta Basin Railway Project (2019). Available at: <https://www.railwayage.com/freight/short-lines-regionals/hemphill-heading-uinta-basin-railway-project/>

<sup>60</sup> Drexel Hamilton, Leadership Team (2018). Available at: <https://drexelhamilton.com/leadership-team/>. Accessed Aug. 29, 2019.



**Figure 1.** Predicted land loss in Plaquemines Parish over the next 50 years.

The Tallgrass terminal would be situated at the mouth of the state of Louisiana's signature land-building project designed to save its coast, the Mid-Barataria Sediment Diversion project.<sup>61</sup> The restoration project would divert mud and sand from the Mississippi River to the disappearing marshland and rebuild land. The success of the project depends on the density of the sediment in the diverted river water. The Tallgrass terminal's river pilings and the large crude oil container ships would reduce the sediment load by 17%.<sup>62</sup>

While much of the oil destined for the Tallgrass Terminal would be transported through a proposed 700-mile long pipeline, some will reportedly arrive by rail.<sup>63</sup> Because of this increase in traffic, New Orleans & Gulf Coast Railroad Co., a subsidiary of Rio Grande Pacific — the same company selected to construct, operate, and maintain the UBR — is proposing to build a new rail spur in Gretna.<sup>64</sup>

Louisiana residents and municipalities have forcefully opposed increased oil trains traveling through their communities. The New Orleans Advocate reported that Belinda Constant, the mayor of Gretna, has called oil trains "a major disruption to the citizens and business owners of the city and would pose health and safety risks to people of the area." Constant said Gretna has more railroad

<sup>61</sup> Cochran, S., New oil terminal in Plaquemines would compound coastal damage, The Times-Picayune (2019). Available at: [https://www.nola.com/opinions/article\\_065425b9-7b0f-5fca-a323-61094c7d8ed4.html](https://www.nola.com/opinions/article_065425b9-7b0f-5fca-a323-61094c7d8ed4.html)

<sup>62</sup> Meselhe, E. RAM Terminal CFD Modeling Technical Memorandum, Study done by The Water Institute of the Gulf and ARCADIS and submitted to the Louisiana Coastal Protection and Restoration Authority (2012). Available at: [http://give.healthygulf.org/sites/healthygulf.org/files/ram\\_terminal\\_technical\\_model.pdf](http://give.healthygulf.org/sites/healthygulf.org/files/ram_terminal_technical_model.pdf)

<sup>63</sup> Calder, C., Gretna officials oppose plan to send crude oil trains through their city (2019). Available at: [https://www.nola.com/news/article\\_7409624e-9d99-50ce-92be-895af7f8b29e.html](https://www.nola.com/news/article_7409624e-9d99-50ce-92be-895af7f8b29e.html)

<sup>64</sup> *Id.*

crossings in a 5-square-mile area than any other municipality in the state. "This just doesn't exist anyplace else, and to think you can expand (it) is craziness," she said.<sup>65</sup>

Increased train traffic in Louisiana is a threat to the public health and quality of life of people in Louisiana. Furthermore, the oil originating from the UBR must be refined at some point, which would also pose serious public health impacts to the people of Louisiana if it is to occur there. The refining of oil has already created an area along the Mississippi between Plaquemines Parish and Baton Rouge known as "Cancer Alley" because of the cancer clusters in poor and predominantly African-American communities. The EIS must consider potential environmental, public health, and environmental justice impacts in Louisiana.

### 3. Train Numbers, Size, and Type

Approximately 3.5 trains would be predicted to travel into the Uinta Basin and 3.5 trains would be predicted to travel out of the Uinta Basin via the UBR per day.<sup>66</sup> Each train may be as long as 110 cars,<sup>67</sup> though, due to constraints of the existing rail lines between Salt Lake City, Utah and Denver, Colorado, they may be limited to 95 cars or 6,200 feet in length.<sup>68</sup>

The majority of trains traveling on the UBR would be unit trains — those carrying one commodity destined for one location. Outbound unit trains would be predicted to carry crude oil, synthetic oil from oil shale, and refined oil products. Outbound manifest trains — those carrying a variety of products — would be predicted primarily to carry sodium bicarbonate, fly ash from the Bonanza Power Plant (and/or the Enefit project), and gilsonite. Inbound unit trains would be predicted to carry frac sand<sup>69</sup> and tubular products or to be empty (note that "empty" oil train cars are never completely empty because a portion of the oil referred to as the "heel" remains after the car is emptied at its destination<sup>70</sup>). Inbound manifest trains would be predicted to be empty.<sup>71</sup>

Given the predicted number and length of trains that would travel each day on the UBR, it is unclear how the railway would be able to accommodate the demand to transport all products that has been claimed to exist by project proponents. According to the available information, the UBR would have capacity to transport between about 230,000 to 266,000 bopd out of the basin (see the above "Conventional Crude Oil" section for calculations). If "every loaded unit train resulted in a

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<sup>65</sup> *Id.*

<sup>66</sup> Hemphill, Mark, March 19 email to Joshua Wayland and other, Subject: Uinta Basin Railway – Trains Per Day Estimate (2019).

<sup>67</sup> Jones & DeMille Engineering, Inc., Uinta Rail - RL Banks Report Details Memorandum (2019).

<sup>68</sup> R.L. Banks & Associates, Inc and Helios Group Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network, 1. Loaded Unit Trains (2018).

<sup>69</sup> However, demand for frac sand from outside of the Uinta Basin should be reevaluated in light of the possibility of a frac sand mine beginning operations in the Uinta Basin in 2019. See Goodrich Mud Company Inc., Proppant Mine in the Uinta Basin (2019). Available at: <https://goodrichmud.com/sand-mine/>

<sup>70</sup> Straw, Roger, Empty Tank Cars Aren't So Empty, Benicia Independent (2016). Available at: <http://beniciaindependent.com/empty-tank-cars-arent-so-empty/>

<sup>71</sup> R.L. Banks & Associates, Inc and Helios Group Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network, 3.9 Transportation (2018).

corresponding empty unit train, consisting of the same number of cars,”<sup>72</sup> all of the 7 trains per day would be loaded and empty oil trains, leaving no room for other products or forcing the railway to not meet the claimed need for transporting between 225,000 and 350,000 bopd.<sup>73</sup>

Furthermore, unless the Craig Route is selected, it is unclear how the UBR would satisfy the claimed need to transport outbound manifest trains carrying materials that all originate from the eastern portion of the Uinta Basin or from even further east in the case of sodium bicarbonate. Both the preferred route and the Wells Draw Route would not be able to make “stops to pick up loads of fly ash from the Bonanza Power Plant in Bonanza, UT, as well as loads of sodium bicarbonate from Natural Soda,”<sup>74</sup> and no evidence has been provided to prove that trucking such materials to the Myton/Leland Bench terminus would be economical.

## **b. Train Impacts**

The EIS needs to address the impacts caused by the increased number of trains created due to the UBR. These trains will impose costs and risks on communities and lands adjacent to the UBR and the routes along the national rail network that trains will travel subsequently.

### **i. Impacts to Transportation Systems**

UBR trains are predicted to be roughly 6,200 feet in length.<sup>75</sup> At any speed, the passing of one of these long trains represents a significant traffic stoppage and a significant imposition on people living in communities through which these trains travel. The EIS must thoroughly examine expected increased traffic delays at railroad crossings, delays to emergency vehicles, and interference with the movement/circulation of people and goods. The EIS should document the expected number, duration, location, and population affected at each road crossing for each proposed route and subsequently along the national rail network. The EIS should contain information on whether trains will travel on regular, publicly available schedules or otherwise how communities will know when and for how long they will suffer stoppages. In its analysis, the OEA should understand how often and for how long communities can expect to be affected by stoppages in cases of emergency where a train must cease its normal operations. The EIS should also contain information on how long cars or equipment could be parked and stationary at sidings or set-out tracks and where those tracks and cars would be located. The EIS must examine these questions thoroughly and consider them in the context of impacts already suffered due to the existing rail traffic in each location.

### **ii. Impacts to New and Existing Rail Infrastructure**

The EIS must contain robust information about the impact, costs, and risks associated with trains originating from the UBR on new and existing rail infrastructure across routes likely to be

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<sup>72</sup> *Id.* at 2. Empty Unit Trains.

<sup>73</sup> Jones & DeMille Engineering, Inc., Uinta Rail - RL Banks Report Details Memorandum (2019).

<sup>74</sup> R.L. Banks & Associates, Inc and Helios Group Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network, 3. Outbound, Loaded, Manifest Trains (2018).

<sup>75</sup> R.L. Banks & Associates, Inc and Helios Group Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network, 1. Loaded Unit Trains (2018).

traveled by these trains, especially because of the high weight of oil tank cars. The addition of these heavy trains will contribute to wear and tear, which requires repairs and causes accidents. The OEA must understand the impact of these additional trains within the context of existing train traffic, impacts, and maintenance, including the massive increase in shipping crude oil by rail in the U.S. in the last decade.<sup>76</sup>

## **1. Oil Trains are Heavy**

Unit trains of commodities like crude oil are comparatively heavy compared to many trains. In 2011, the FRA increased the maximum weight allowed for cars carrying hazardous materials such as crude oil by around eight percent to 286,000 pounds gross rail load.<sup>77</sup> However, it is not clear if or how often because of lack of enforcement and a desire to cut costs the oil industry fills cars above this limit.<sup>78</sup>

## **2. Heavy Trains Wear on Tracks and Wheels**

Heavy trains seem to increase the likelihood of instances of tracks, wheels, and other components breaking.<sup>79</sup> A 2015 letter by the Transportation Safety Board of Canada reported that “Petroleum crude oil unit trains with heavily loaded tank cars will tend to impart higher-than-usual forces to the track infrastructure during their operation. These higher forces expose any weaknesses that may be present in the track structure, making the track more susceptible to failure.”<sup>80</sup> Track and wheel breakages are top causes of train derailments, the most common type of train accident in the U.S. as of 2012.<sup>81</sup>

### **iii. Rail Safety**

The OEA must consider the consequences of increased oil-by-rail shipments due to the Uinta Basin Railway in regards to rail safety and the likelihood and potential severity of accidents. The EIS must consider this in light of the current relaxed regulatory environment and recent trend of increased derailments, fires, and explosions. These risks and costs must be understood for each jurisdiction and community that oil trains originating from the Uinta Basin Railway could foreseeably travel through (see “Train Routes and Destinations” section of these comments). The EIS must also specifically investigate these safety considerations for any and all other products that may be shipped via the UBR (see “Train Contents” section of these comments).

## **1. Inadequacy of Federal Rail Regulations**

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<sup>76</sup> U.S. Energy Information Administration, U.S. Crude Oil by Rail (2019). Available at: [https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=ESM\\_EPC0\\_RAIL\\_NUS-NUS\\_MBBL&f=M](https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=ESM_EPC0_RAIL_NUS-NUS_MBBL&f=M)

<sup>77</sup> Mikulka, Justin, *Train Weight*, in Bomb Trains, pg. 104 (2019a).

<sup>78</sup> *Id.* at Federal Railroad Administration Concerned About Train Weight in 2013, pgs. 107-109.

<sup>79</sup> Mikulka, Justin, “*These Trains Are Likely Too Long, Too Heavy*,” in Bomb Trains, pgs. 105-106 (2019a).

<sup>80</sup> Jang, Kirby, Rail transportation safety advisory letter 04/15, Transportation Safety Board of Canada (2015). Available at: <http://www.bst-tsb.gc.ca/eng/securite-safety/rail/2015/r15h0021/r15h0021-617-04-15.html>

<sup>81</sup> Liu, Xiang, M. Rapik Saat, and Christopher P.L. Barkan, Analysis of Causes of Major Train Derailment and Their Effect on Accident Rates, Transportation Research Record Journal of the Transportation Research Board (2012).

Overall, current federal rail safety standards are lax due to industry influence over regulatory agencies and other factors.<sup>82</sup> In its March 15, 2019 withdrawal of standards for train crew staffing, the FRA stated “[The Department of Transportation]’s approach to achieving safety improvements begins with a focus on removing unnecessary barriers and issuing voluntary guidance, rather than regulations that could stifle innovation.”<sup>83</sup> As oil shipments by rail have increased,<sup>84</sup> regulators have not kept up,<sup>85</sup> leading to a series of oil train accidents in recent years.<sup>86</sup> The EIS must describe the current regulatory regime that would apply to trains originating due to the UBR. The OEA must take this regime and recent accident trends into account when considering potential impacts due to accidents involving trains originating from the UBR and accidents due to the impacts of trains originating from the UBR such as wear and tear on rail infrastructure. The EIS must document how each of the following factors and any other factors affecting rail safety will or will not be enforced along the UBR and routes over which trains originating due to the UBR might travel (see “Train Routes and Destinations” section of these comments).

#### **a) Tank Standards**

The EIS must present information on the types of train cars that will travel along the UBR and the specifications, characteristics — including “puncture velocity” — and risks associated with each type, including DOT-111, CPC-1232, DOT-117R, and DOT-117 models. The OEA should consider potential deficiencies in current rules in its analysis of the potential impacts of the UBR. For example, the 2015 rule promulgated by the Pipeline and Hazardous Materials Safety Administration (PHMSA) concerning tank car standards and other considerations related to transporting oil by rail<sup>87</sup> was insufficient in several ways to provide real meaningful protections.<sup>88</sup>

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<sup>82</sup> Mikulka, Justin, Bomb Trains (2019a); Further background information can be found in Girard et al., Transportation of Dangerous Goods Newsletter Vol. 36 No. 1 (2016).

<sup>83</sup> Federal Railroad Administration, Train Crew Staffing, 84 Fed. Reg. 103, 24735-741 (March 15, 2019). Available at: <https://www.govinfo.gov/content/pkg/FR-2019-05-29/pdf/2019-11088.pdf>

<sup>84</sup> U.S. Energy Information Administration, U.S. Crude Oil by Rail (2019). Available at: [https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=ESM\\_EPC0\\_RAIL\\_NUS-NUS\\_MBBL&f=M](https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=ESM_EPC0_RAIL_NUS-NUS_MBBL&f=M)

<sup>85</sup> Mikulka, Justin, Bomb Trains (2019a).

<sup>86</sup> Associated Press, A timeline of recent oil train crashes in the US and Canada (2016). Available at: <https://www.apnews.com/84b1e8273d854697b34af57bc60badc2>

<sup>87</sup> Pipeline and Hazardous Materials Safety Administration, Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains, 80 Fed. Reg. 26644-26750 (2015), available at: <https://www.govinfo.gov/content/pkg/FR-2015-05-08/pdf/2015-10670.pdf>

<sup>88</sup> Earthjustice, Analysis of 7 Hidden Dangers in the New Federal Oil Tank Car Rule (2015). Available at: <http://earthjustice.org/sites/default/files/files/7%20Things%20CBR%20Rule%205%2013.pdf>; CBD et al., Comments of the Center for Biological Diversity, Friends of the Gorge and Adirondack Mountain Club on Docket No. PHMSA-2012-0082 (HM—251) Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains (2012). Available at: [https://www.biologicaldiversity.org/campaigns/oil\\_trains/pdfs/9-30-14-Comments-oil-train-OSRP.pdf](https://www.biologicaldiversity.org/campaigns/oil_trains/pdfs/9-30-14-Comments-oil-train-OSRP.pdf)

### **b) Car Weight**

The EIS must present information on the allowed and expected gross rail load for oil tank cars<sup>89</sup> and other types of train cars that would carry products that might be shipped via the UBR (see “Train Contents” section of these comments). The OEA must consider how the weight of these cars might affect accident rates<sup>90</sup> and the resulting impacts.

### **c) Train Length**

The “Train Numbers, Size, and Type” section of these comments contains information available about the expected length of trains traveling along the UBR. The OEA must consider the rail safety implications and potential impacts of these relatively long trains.

### **d) Train Speed**

Federal regulations likely aren’t sufficient to prevent accidents due to excessive train speed<sup>91</sup> and often allow trains to travel faster than the “puncture velocities” of oil tank cars traveling on them. The OEA must consider the speeds at which trains moving along the UBR will travel, the associated risk of accidents, and the potential impacts.

### **e) Train Crew**

In 2019, the FRA issued the proposed withdrawal of a proposed rule that would have required two-person crews on trains,<sup>92</sup> pre-empting existing and recently-enacted state laws to put such safety measures in place.<sup>93</sup> Erasing and preventing requirements for multi-person crews will increase accidents that occur due to fatigue and other reasons and will decrease train crews’ ability to respond in emergency situations such as derailments. The OEA must consider how the absence of requirements for multi-person crews and other safety measures related to train crews will affect the risk and severity of accidents for trains traveling along and originating due to the UBR and how this will increase the potential impacts of the project.

### **f) Braking Systems**

In 2017, the Pipeline and Hazardous Materials Safety Administration announced plans to repeal a rule requiring oil trains to have modern electronically controlled pneumatic (ECP) braking

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<sup>89</sup> For related information and relevant considerations *see* CBD and Riverkeeper, Petition for Rulemaking: Limitation on Weight and Number of Cars for Rail Transport of Crude Oil and Other Hazardous Liquids (2014). Available at: [https://www.biologicaldiversity.org/campaigns/oil\\_trains/pdfs/11-24-2014\\_PHMSA\\_TrainLengthWeight\\_Petition.pdf](https://www.biologicaldiversity.org/campaigns/oil_trains/pdfs/11-24-2014_PHMSA_TrainLengthWeight_Petition.pdf)

<sup>90</sup> Mikulka, Justin, *Train Weight*, “These Trains Are Likely Too Long, Too Heavy,” *Federal Railroad Administration Concerned About Train Weight in 2013*, in *Bomb Trains*, pgs. 104-109 (2019a).

<sup>91</sup> *Id.* at *Slow Down Oil Trains*, in *Bomb Trains*, pg. 179 (2019a).

<sup>92</sup> Train Crew Staffing, 84 Fed. Reg. 24735-41 (May 29, 2019).

<sup>93</sup> LaBrecque, Louis C, Railroad Agency Scraps Train Crew Staffing Regulation Proposal, Bloomberg Law (2019). Available at: <https://news.bloomberglaw.com/daily-labor-report/railroad-agency-scraps-train-crew-staffing-regulation-proposal>

systems installed.<sup>94</sup> Despite industry efforts to obscure this fact, ECP systems are much more effective than older technologies currently in use and would greatly increase safety and decrease derailments and spills if used.<sup>95</sup> The OEA must consider how the absence of requirements for modern ECP braking systems will affect the risk and severity of accidents for trains traveling along and originating due to the UBR and how this will increase the potential impacts of the project.

### **g) Positive Train Control**

The EIS must contain information on whether or not trains traveling along the UBR and subsequently within the national rail network will be using Positive Train Control (PTC) technologies. While they increase safety and decrease accidents, the rail industry has been slow to adopt PTC technologies.<sup>96</sup> Use of these technologies would decrease potential impacts of the project.

## **2. Emergency Response Plans**

The preponderance of recent accidents involving oil trains has led some states, including Oregon (2019)<sup>97</sup> and Washington (2015)<sup>98</sup> to pass regulations requiring crude oil spill response plans, trainings, and other protective measures. The EIS must examine the current regime of state level regulations in Utah related transporting oil by rail because these types of regulations could reduce potential impacts of the project.

The EIS must contain information about the adequacy of existing emergency plans<sup>99</sup> and the ability of the local police departments, fire departments, and emergency medical personnel to respond to derailments, collisions, other major accidents that result in catastrophic oil spills, explosions, or fires at transloading facilities, along the UBR and along subsequent routes and at destination facilities. This information should be specific to how each of the products that might be

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<sup>94</sup> Pipeline and Hazardous Materials Safety Administration, Hazardous Materials: Announcement of the Department of Transportation's Decision on Electronically Controlled Pneumatic Braking, 82 Fed. Reg. 58582-83 (2019c). Available at: <https://www.govinfo.gov/content/pkg/FR-2017-12-13/pdf/2017-26546.pdf>

<sup>95</sup> Mikulka, Justin, *Modern Braking Systems: Deny the Science Even After Supporting It; Costs and Benefits: GAO and Industry Estimates; ECP Braking in the Real World*, in Bomb Trains, pgs. 67-87 (2019a); Mikulka, Justin, The Trump Admin's Misleading Justifications for Repealing This Oil Train Safety Rule, DeSmog (2017). Available at: <https://www.desmogblog.com/2017/12/10/trump-admin-repeal-oil-train-safety-rule-electronically-controlled-pneumatic-brakes>

<sup>96</sup> *Id.* at Positive Train Control, in Bomb Trains, pgs. 65-67 (2019a).

<sup>97</sup> Oregon Legislative Assembly, 2019 Regular Session, House Bill 2209, Contingency Planning for High Hazard Train Routes (2019). Available at:

<https://olis.leg.state.or.us/liz/2019R1/Downloads/MeasureDocument/HB2209/Enrolled>

<sup>98</sup> Legislature of the State of Washington, 64th Legislature 2015 Regular Session, CERTIFICATION OF ENROLLMENT ENGROSSED SUBSTITUTE HOUSE BILL 1449 (2015). Available at:

<http://lawfilesexxt.leg.wa.gov/biennium/2015-16/Pdf/Bills/Session%20Laws/House/1449-S.SL.pdf#page=1>

<sup>99</sup> See for example CBD et al., Comments of the Center for Biological Diversity, Friends of the Gorge and Adirondack Mountain Club on Docket No. PHMSA-2014-2015 (HM—251B) Hazardous Materials: Oil Spill Response Plans for High-Hazard Flammable Trains (2014a). Available at: [https://www.biologicaldiversity.org/campaigns/oil\\_trains/pdfs/9-30-14-Comments-oil-train-OSRP.pdf](https://www.biologicaldiversity.org/campaigns/oil_trains/pdfs/9-30-14-Comments-oil-train-OSRP.pdf); CBD et al., Petition to the Secretary of Transportation to Issue an Emergency Order Requiring Comprehensive Oil Spill Response Plans for High Hazard Flammable Trains (2014b). Available at: [https://www.biologicaldiversity.org/campaigns/oil\\_trains/pdfs/9-30-2014\\_CBD\\_Emergency\\_OSRP\\_Petition.pdf](https://www.biologicaldiversity.org/campaigns/oil_trains/pdfs/9-30-2014_CBD_Emergency_OSRP_Petition.pdf)

transported (see “Train Contents” section of these comments) will be classified (DOT hazard class etc.) and treated and should include but not necessarily be limited to municipalities that intersect with the DOT Evacuation Zone for oil train derailments (0.5 mile) and Potential Impact Zone for oil train fires (1.0 mile). The EIS should also consider the extent of insurance and assurance requirements that companies will be held to in the event of accidents. The adequacy or inadequacy of these plans and other measures will affect the potential impacts of this project.

### **3. Likelihood and Magnitude of Impacts due to Accidents**

The EIS should include a robust Quantitative Risk Analysis (QRA) for the purpose of examining the likelihood of accidents occurring during operation of the UBR and along the routes that trains originating from the UBR will subsequently travel and the magnitude of potential impacts various types of accidents could have if they were to occur. For example, the OEA could conduct a QRA akin to the one that was done for the proposal to ship LNG along the Florida East Coast Railway.<sup>100</sup> This type of analysis should be done for all products that may travel along the UBR (see “Train Contents” section of these comments) and subsequently along the national rail network (see “Train Routes and Destinations” section of these comments). The type, effects, and likelihood of such accidents revealed in this type of analysis holds direct bearing on the potential impacts the project will cause over the course of its life.

#### **a) Examples of Potential Accident Scenarios to Consider**

The EIS should contain information about the likelihood and magnitude of different types of accidents including but not limited to the following:

##### **a) Train Derailments and Spills**

The EIS must examine the likelihood and impacts of train derailments and spills along the UBR and subsequently along national rail network routes likely to be traveled by UBR trains. This examination should incorporate but not be limited to the types of considerations raised in the “Train Characteristics,” “Train Impacts,” and any other relevant sections of these comments.

##### **b) Automobile Collisions**

The EIS should contain information about the risks and impacts of trains colliding with automobiles. This should include information on each rail crossing along the UBR, including what type of markings or signals will be installed at each crossing and the accident rates associated with these types of markings and signals.

##### **c) Accidental Death and Suicide**

Communities through which trains run experience horrible tragedies when people are struck, resulting in trauma to witnesses and communities as a whole. The EIS should contain information

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<sup>100</sup> Exponent, Inc., Florida East Coast Railway, FECR Movement of LNG ISO Containers by Rail, Quantitative Risk Analysis (QRA) Considering LNG Position in Train and Train Speed (2016).

about the risks and impacts of trains striking humans, including what measures will be put in place to best prevent these instances.

#### **d) Wildlife Strikes**

Trains traveling along the UBR will be traversing areas with significant wildlife populations. The EIS should contain information about the risks and impacts of trains colliding with wild animals, including what measures will be put in place to best prevent these instances.

#### **e) Stock Animal Strikes**

Trains traveling along the UBR will cross through 21 grazing allotments, some of which support livestock in the winter and some of which support livestock in the summer.<sup>101</sup> The EIS should contain information about the risks and impacts of trains colliding with stock animals, including what measures will be put in place to best prevent these instances.

#### **f) Accidents Due to Weather**

The EIS should contain information about risks and impacts resulting from weather along the UBR. Trains traveling this route may be affected by landslides, snow drifts, rock fall, clogged culverts, flooding or other natural events. The EIS should contain information about the risks and impacts of trains experiencing these complications, including what measures will be put in place to best prevent accidents due to these types of events.

#### **g) Accidents Due to Wildfire**

Trains traveling along the UBR would cross landscapes prone to wildfire. Whether ignited naturally, by UBR trains themselves, or by other human sources, the EIS must contain information on the risks and impacts posed by wildfire affecting the UBR. This examination should consider not only the effects of fires themselves, but also the aftermath of fires, including but not limited to flooding and landslides. The EIS should discuss measures that could be put in place to best prevent accidents due to wildfire.

### **iv. Other Train Impacts**

The EIS needs to address any other impacts to communities resulting from the increased number of trains created due to the UBR that are not included in the above sections. These include but are not limited to air and noise pollution and impacts due to liquid oil leakage from tank cars, which occurs commonly in small amounts. The EIS should consider whether or not the construction

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<sup>101</sup> Clark, Kathleen, Public Lands Policy Coordinating Office, May 9, 2019 Letter to Joshua Wayland, Subject: Seven County Infrastructure Coalition—Construction & Operation Exemption—in Utah, Carbon, Duchesne, and Uintah Counties, Utah (2019). Available at: [https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/94865A232AA97127852584040055F37F/\\$File/EI-26506.pdf?OpenElement](https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/94865A232AA97127852584040055F37F/$File/EI-26506.pdf?OpenElement)

of berms will be required along the railway to ensure that leaked liquid oil does not flow into waterways.

#### IV. Increased Oil and Mineral Production

Council on Environmental Quality regulations require federal agencies to consider all direct, indirect, and cumulative effects of the agency's action.<sup>102</sup> Indirect effects "are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable."<sup>103</sup> Cumulative effects are "impact[s] on the environment which result[ ] from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."<sup>104</sup> Thus, in addition to direct effects of the proposed action, NEPA requires the OEA to consider all reasonably foreseeable effects of the proposed action—either as an indirect effect if caused by the action, or as a cumulative effect if it will have an incremental impact on the environment when added to the direct or indirect effects of the action.

According to the R.L. Banks Pre-Feasibility Analysis the Uinta Basin railway will transport various commodities out of the Uinta Basin, including crude oil, synthetic crude oil from oil shale, refined oil products, sodium bicarbonate, fly ash, and gilsonite.<sup>105</sup> The OEA should consider all of these products and any others that may be shipped via the UBR (see "Train Contents" section of these comments).

For crude oil, the OEA must determine in its EIS the quantity of increased production that will be caused by the railway—that is, the quantity of crude oil that would not be produced but for the transport capacity of the railway. In addition to independently analyzing the increased production that will be caused by the railway, the OEA should also consider the SCIC Pre-Feasibility Study's statements, and the SCIC's own assertion in its Uinta Basin Rail Line Planning Addendum to Project Description. Those documents note that nearly all oil currently produced in the Uinta Basin is shipped to refineries near Salt Lake City, that current production in the Basin is capped near 80,000 to 90,000 barrels of oil per day (bopd) due to the Salt Lake refineries' capacity limitations, and that the railway would facilitate *increased* oil production in the Basin from about 85,000 bopd up to 225,000 to 350,000 bopd.<sup>106</sup> In fact, SCIC agreed in a Memorandum of Understanding with Drexel Hamilton Infrastructure Partners, L.P. that the railway could transport up to about 500,000 bopd.<sup>107</sup> Accordingly, because the Basin's oil production currently is capped at about 85,000 bopd, increased oil production from about 85,000 bopd up to about 500,000 bopd (or 585,000 bopd if the UBR does

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<sup>102</sup> 40 C.F.R. § 1508.25(c); *id.* § 1502.16.

<sup>103</sup> *Id.* § 1508.8(b).

<sup>104</sup> *Id.* § 1508.7.

<sup>105</sup> R.L. Banks & Associates, Inc and Helios Group Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network (2018).

<sup>106</sup> *Id.*; SCIC, Uinta Basin Rail Line Planning Addendum to Project Description, p. 3 (No Date).

<sup>107</sup> Drexel Hamilton Infrastructure Partners, L.P. and Seven County Infrastructure Coalition, Memorandum of Understanding Regarding the Development of the Uinta Basin Railway (2019).

not replace existing trucking to Salt Lake refineries) would not be possible but for the railway's transport capacity. Thus, at a minimum, because between 225,000 and 500,000 bopd of increased oil production will be caused by the railway, the OEA must analyze the impacts of that increased oil production as an indirect effect of the railway. Moreover, the OEA must analyze as a cumulative effect all other past, present, and reasonably foreseeable future crude oil production that will incrementally impact the environment when added to the railway's direct and indirect impacts.

For synthetic crude oil from oil shale, refined oil products, sodium bicarbonate, fly ash, gilsonite, and any other products that may be shipped along the UBR (see "Train Contents" section of these comments), the STB must also determine in its EIS the quantity of increased production of these products that will be caused by the railway—again, the quantity of these products that would not be produced but for the transport capacity of the railway.<sup>108</sup> The OEA must then analyze, as an indirect effect of the railway, the impacts from that increased production of synthetic crude oil from oil shale, refined oil products, sodium bicarbonate, fly ash, gilsonite, and any other products. And, the OEA must analyze as a cumulative effect all other past, present, and reasonably foreseeable future production of these commodities that will incrementally impact the environment when added to the railway's direct and indirect impacts.<sup>109</sup>

Importantly, for all commodities that will be transported out of the Basin by the railway, in addition to analyzing the impacts from upstream production of those commodities (in the Basin or wherever production is located), the OEA must also analyze the impacts from *downstream* end use.<sup>110</sup> For example, for petroleum products, increased downstream end uses include, but are not limited to, processing at refineries and eventual combustion. And, the OEA's obligation to analyze the upstream and downstream environmental impacts of increased production is not relieved by the STB's lack of jurisdiction over upstream producers or downstream end users. Although it is true that "[a]n agency has no obligation to gather or consider environmental information if it has no statutory authority to act on that information," here, the STB has statutory authority to act. Pursuant to 49 U.S.C. § 10901(c), the STB must consider whether the approval of a railway application would be "inconsistent with the public convenience and necessity." The STB has broad discretion to consider an "infinite variety of circumstances," including environmental effects, in determining whether a proposed railway is inconsistent with the public convenience and necessity.<sup>111</sup> Because the STB may deny a railway application on the ground that the railway would be too harmful to the environment, the agency is a "legally relevant cause" of the direct and indirect environmental effects

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<sup>108</sup> See 40 C.F.R. § 1508.8(b).

<sup>109</sup> See *id.* § 1508.7.

<sup>110</sup> See *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357, 1374 (D.C. Cir. 2017); *San Juan Citizens All. v. U.S. Bureau of Land Mgmt.*, 326 F. Supp. 3d 1227, 1244 (D.N.M. 2018); see also *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549-50 (8th Cir. 2003).

<sup>111</sup> See *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1094-95 (9th Cir. 2011) (citing *N.M. Navajo Ranchers Ass'n v. I.C.C.*, 702 F.2d 227, 232 (D.C.Cir. 1983) (quoting *I.C.C. v. Parker*, 326 U.S. 60, 65 (1945))).

of railways it approves—even where it lacks jurisdiction over the producer, distributor, or end-user of the petroleum transported by the railway.<sup>112</sup>

#### **a. Information on Uinta Basin Oil Shale and Tar Sands Developments**

Oil shale and tar sands are some of world's most carbon-intensive fuels. Mining and processing of these resources can require several barrels of water for each barrel of bitumen or kerogen that is produced. Development of oil shale and tar sands in the Uinta Basin has, overall, remained very low due to the current price of oil, the lack of transportation options, and technological inadequacies among other reasons. The UBR would likely stand to positively affect the profitability of oil shale and tar sands developments in the Uinta Basin and therefore, in its analysis of indirect and cumulative effects of the railway, the OEA should include an assessment of all of the following and any other oil shale and tar sands developments:

##### **i. Enefit American Oil**

This company hopes to produce 50,000 barrels of synthetic crude oil per day from its project in the Uinta Basin<sup>113</sup> and has expressed support for the UBR.<sup>114</sup>

##### **ii. Red Leaf Resources, Inc.**

This company holds multiple leases, claiming to have tens of millions of barrels of oil in place and a commercially viable technology called EcoShale®.<sup>115</sup>

##### **iii. TomCo Energy**

This company claims to hold nine oil shale leases on 15,488 acres of land in the Uinta Basin, which it claims hold hundreds of millions of barrels of oil.<sup>116</sup>

##### **iv. Petroteq Energy Inc.**

This company recently claimed it would be producing 1,000 bopd from its Asphalt Ridge facility.<sup>117</sup>

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<sup>112</sup> See *Birkhead v. Fed. Energy Regulatory Comm'n*, 925 F.3d 510, 519 (D.C. Cir. 2019) (FERC is not excused from considering indirect effects of a pipeline, even though it lacks jurisdiction over upstream producers or downstream end-users, because the agency's mandate to consider "public convenience and necessity" means the agency can deny a pipeline on environmental grounds and thus the agency is the "legally relevant cause" of direct and indirect environmental effects of pipelines it approves) (citing *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357, 1372–73 (D.C. Cir. 2017)); see also *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 73–74 (D.D.C. 2019).

<sup>113</sup> Grand Canyon Trust et al., RE: Comments – Enefit American Oil Utility Corridor Project DEIS (2016).

<sup>114</sup> Enefit American Oil, Re: Seven Country Infrastructure Coalition, Uinta Basin Rail Line Project (2018).

<sup>115</sup> Red Leaf Resources, Inc., 2015/2016 Annual Report (2016).

<sup>116</sup> TomCo Energy, Location of our oil shale leases (2018). Available at: <https://tomcoenergy.com/holliday-block/>

<sup>117</sup> Petroteq Energy Inc., Petroteq Energy Announces Continuous Production (2019). Available at: <https://www.globenewswire.com/news-release/2019/03/28/1781619/0/en/Petroteq-Energy-Announces-Continuous-Production.html>

**v. Vivakor, Inc.**

This company is attempting to develop oil sands on a property near Vernal, Utah that it claims holds more than 44 million barrels of crude oil.<sup>118</sup>

**vi. USO (Utah) LLC**

This company owns a tar sand processing facility and bitumen leases on 5,930 acres at a location called PR Spring that is claims holds 180 million barrels of “discoverable petroleum.”<sup>119</sup>

**V. Climate**

**a. OEA Must Consider Recent Climate Science**

NEPA requires OEA to consider “high quality information” and “accurate scientific analysis” in its decisionmaking process. 40 C.F.R. § 1500.1(b). Thus, OEA must consider recent climate science in its forthcoming NEPA analysis.

To date, the average global temperature has risen approximately 1.0°C above pre-industrial levels.<sup>120</sup> Global warming is likely to reach 1.5°C between 2030 and 2052 assuming a constant rate.<sup>121</sup>

Climate change has been intensively studied and acknowledged at the global, national, and regional scales. The Intergovernmental Panel on Climate Change (“IPCC”) is a Nobel Prize-winning scientific body within the United Nations that reviews and assesses the most recent scientific, technical, and socio-economic information relevant to our understanding of climate change. In its 2014 report to policymakers, the IPCC provided a summary of our understanding of human-caused climate change. Among other things, the IPCC summarized:<sup>122</sup>

- Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems.
- Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen.

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<sup>118</sup> Vivakor, Inc., Vivakor Enters Agreement to Purchase Private Oil Sands Facility with over 44 Million Barrels of Oil Resources (2019). Available at: <https://vivakor.com/vivakor-to-present-at-the-annual-utah-governors-energy-summit-2019-in-salt-lake-city-2-2-2/>

<sup>119</sup> USO (Utah) LLC, Welcome to USO (2018). Available at: <https://usoutah.com/>

<sup>120</sup> Intergovernmental Panel on Climate Change, SPECIAL REPORT: GLOBAL WARMING OF 1.5°C, SUMMARY FOR POLICYMAKERS, 1,6 (2018). Available at: <https://www.ipcc.ch/sr15/> (hereinafter “IPCC SR15, Summary for Policymakers”).

<sup>121</sup> *Id.*

<sup>122</sup> IPCC AR5, CLIMATE CHANGE SYNTHESIS REPORT: SUMMARY FOR POLICYMAKERS (2014), [http://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5\\_SYR\\_FINAL\\_SPM.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf).

- Anthropogenic greenhouse gas emissions have increased since the pre-industrial era, driven largely by economic and population growth, and are now higher than ever. This has led to atmospheric concentrations of carbon dioxide, methane, and nitrous oxide that are unprecedented in at least the last 800,000 years. Their effects, together with those of other anthropogenic drivers, have been detected throughout the climate system and are extremely likely to have been the dominant cause of the observed warming since the mid-20<sup>th</sup> century.
- In recent decades, changes in climate have caused impacts on natural and human systems on all continents and across the oceans. Impacts are due to observed climate change, irrespective of its cause, indicating the sensitivity of natural and human systems to changing climate.
- Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive, and irreversible impacts for people and ecosystems. Limiting climate change would require substantial and sustained reductions in greenhouse gas emissions which, together with adaptation, can limit climate change risks.
- Surface temperature is projected to rise over the 21st century under all assessed emission scenarios. It is very likely that heat waves will occur more often and last longer, and that extreme precipitation events will become more intense and frequent in many regions. The ocean will continue to warm and acidify, and global mean sea level to rise.

This trend is confirmed by recent data from the National Oceanic and Atmospheric Administration (“NOAA”). According NOAA’s 2018 Global Climate Report, “2018 [] mark[ed] the 42nd consecutive year (since 1977) with global land and ocean temperatures, at least nominally, above the 20th century average.”<sup>123</sup> Moreover, “North America’s 2018 continental temperature was the 18th highest since continental records began in 1910 at 0.73°C (1.31°F).”<sup>124</sup>

A number of scientific reports have translated the impacts from global warming to impacts on the ground. In 2018 the U.S. Global Change Research Program (“USGCRP”), a science-based organization led by NOAA and comprised of hundreds of scientists and technical experts from federal agencies, states, tribes, local governments, universities, and non-profits, released its Fourth National Climate Assessment Volume II: Impacts, Risks, and Adaptation in the United States.<sup>125</sup> In addition to providing updated scientific assessment of global and national impacts and risks associated with climate change, Volume II of the Fourth National Climate Assessment provided a much more granular look at projected regional climate impacts.

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<sup>123</sup> NOAA Nat’l Centers for Enviro. Info., Global Climate Report – Annual 2018 (2018). Available at: <https://www.ncdc.noaa.gov/sotc/global/201813>.

<sup>124</sup> *Id.*

<sup>125</sup> Reidmiller *et al.*, USGCRP, Impacts, Risks, and Adaptations in the United States Fourth National Climate Assessment, VOLUME II (2018), <https://nca2018.globalchange.gov/>.

The report documents specific and concerning impacts to Utah’s environment, natural resources, and economy, that OEA needs to incorporate into its assessment of climate impacts. For example, the Southwest region, of which Utah is a part, could experience an 8.6°F increase in regional annual average temperatures by 2100.<sup>126</sup> This could lead to aridification of much of the Southwest.<sup>127</sup> Increased temperatures are already significantly impacting the water cycle in the Southwest resulting in decreased snowpack, streamflow and increases in the proportion of rain to snow.<sup>128</sup> Higher temperatures also sharply increase the risk of megadroughts or dry periods lasting more than 10 years.<sup>129</sup>

According the report, the ecosystems of the Southwest will also suffer as a result of climate change.<sup>130</sup> Trees are dying, bark beetle infestations are increasing, and wildfires are burning more acreage ultimately leading to increased erosion and damages to communities in fire-prone areas.<sup>131</sup>

The report also demonstrates that Indigenous communities will also suffer more than most as a result of climate change.<sup>132</sup> Drought resulting from climate change will reduce Indigenous crops and food staples and threaten water supplies.<sup>133</sup>

Finally, the report highlights a drastic increase in health risks to people in the Southwest as a result of extreme heat, poor air quality, reduced water resources, and threats to agricultural systems. In Utah specifically, between 1999 and 2004, “75% of Utah ranch operations reported major reductions in water supply, forage, and cattle productivity.”<sup>134</sup>

OEA has an obligation to use the best available science in assessing the climate impacts that will result from its decisions. The Volume II of the Fourth National Climate Assessment represents the federal government’s most recent analysis of climate impacts on Utah and the Southwest region, and OEA must fully discuss the specific regional impacts identified in the Assessment, including the trade-off between fossil fuel extraction and strong communities, water systems, and ecosystems.

#### **b. OEA Must Fully Quantify Direct, Indirect, and Cumulative Greenhouse Gas Emissions.**

To fulfill the goals of NEPA, federal agencies are required to analyze the “effects,” or impacts, of their actions to the human environment prior to undertaking their actions. *Id.* § 1502.16(d); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) (holding that NEPA imposes “action forcing procedures . . . requir[ing] that agencies take a *hard look* at

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<sup>126</sup> *Id.* at 1109.

<sup>127</sup> *Id.*

<sup>128</sup> *Id.* at 1112

<sup>129</sup> *Id.*

<sup>130</sup> *Id.* at 1115.

<sup>131</sup> *Id.* at 1115–16.

<sup>132</sup> *Id.* at 1121.

<sup>133</sup> *Id.* at 1121–22.

<sup>134</sup> *Id.* at 1128.

environmental consequences”). To this end, an agency must analyze the “direct,” “indirect,” and “cumulative” effects of its actions, and assess their significance. *Id.* §§ 1502.16(a), (b), and (d). Direct effects include all impacts that are “caused by the action and occur at the same time and place.” *Id.* § 1508.8(a). Indirect effects are “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” *Id.* § 1508.8(b). Cumulative effects include the impacts of all past, present, and reasonably foreseeable actions, regardless of what entity or entities undertake the actions. *Id.* § 1508.7.

Generally, an agency may prepare an environmental assessment (“EA”) to analyze the effects of its actions and assess the significance of impacts. *See id.* § 1508.9; *see also* 43 C.F.R. § 46.300. Where impacts are not significant, an agency may issue a Finding of No Significant Impact (“FONSI”) and implement its action. *See* 40 C.F.R. § 1508.13; *see also* 43 C.F.R. § 46.325(2). But, where effects are significant, an agency must prepare an EIS. *See* 40 C.F.R. § 1502.3.

Federal agencies determine whether direct, indirect, or cumulative impacts are significant by accounting for both the “context” and “intensity” of those impacts. *Id.* § 1508.27. Context “means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality” and “varies with the setting of the proposed action.” *Id.* § 1508.27(a). Intensity “refers to the severity of the impact” and is evaluated according to several additional elements, including: the unique characteristics of the geographic area such as ecologically critical areas; the degree to which the effects are likely to be highly controversial; the degree to which the possible effects are highly uncertain or involve unique or unknown risks; and whether the action has cumulatively significant impacts. *Id.* §§ 1508.27(b)(3), (4), (5), (7).

Within the context of climate change, NEPA requires OEA to quantify and discuss the significance of the direct, indirect, and cumulative greenhouse gases generated by its proposed action. 40 C.F.R. §§ 1502.16 (outlining what is required in an impacts analysis), 1508.7 (defining cumulative impacts), 1508.8 (defining direct and indirect impacts); *Western Org. of Res. Councils v. U.S. Bureau of Land Mgmt.*, CV 16-21-GF-BMM, 2018 WL 1475470, (D. Mont. Mar. 26, 2018) (requiring quantification of indirect GHG emissions at the resource management plan stage); *Sierra Club v. Fed. Energy Regulatory Comm’n*, 867 F.3d 1357, 1374 (D.C. Cir. 2017) (requiring quantification of indirect GHG emissions burned as a result of a natural gas pipeline); *Center for Biological Diversity v. National Highway Traffic. Admin.*, 538 F.3d 1172, 1215 (9th Cir. 2008) (requiring assessment of the cumulative impacts of climate change from a proposed rule); *San Juan Citizens All. v. United States Bureau of Land Mgmt.*, 326 F. Supp. 3d 1227, 1244 (D.N.M. 2018) (requiring an analysis of the direct, indirect, and cumulative GHG emissions at the oil and gas lease sale stage); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 53 (D.D.C. 2019) (requiring a robust analysis of the direct and indirect climate impacts from nine lease sales as well as a quantitative, regional and national cumulative impacts analysis of reasonably foreseeable future actions such as BLM lease sales).

Here, this means that OEA must not only quantify direct greenhouse gas emissions from construction and operation of the proposed railway for each individual route, but must also quantify indirect greenhouse gas emissions from any expansion in access to oil resources (including oil shale and tar sands) caused by the railway. *Sierra Club v. Fed. Energy Regulatory Comm’n*, 867 F.3d 1357, 1374 (D.C. Cir. 2017). For example, according to project proponents, the railway would increase oil production in the Uinta Basin by 225,000 to 350,000 barrels of oil per day.<sup>135</sup> Using the Environmental Protection Agency’s (EPA) greenhouse gas equivalency factors, one barrel of oil produces 0.43 metric tons of carbon dioxide.<sup>136</sup> Thus, combustion of 225,000 to 350,000 barrels of oil per day would result in 96,750 to 150,500 metric tons of carbon dioxide per day. Over the course of a year, this equates to 35 to 55 million tons of carbon dioxide or using the lower estimate, greenhouse gas emissions from 7.4 million cars driven for one year or 9.1 coal-fired power plants operated for one year. OEA must ensure that it includes such calculations in any forthcoming EIS for the expansion of oil resources from shale oil formations, oil shale, and tar sands.

OEA must also ensure that it assesses cumulative greenhouse gas emissions from past, present, and reasonably foreseeable actions by federal, state, and private entities. 40 C.F.R. §§ 1502.16, 1508.7. We expect that OEA will disclose information on total, combined direct and indirect emissions from the proposed railway over each year of the project and over the entire lifespan of project. We also expect that OEA will assess reasonably foreseeable actions such as BLM oil and gas lease sales. As the court made clear in *WildEarth Guardians v. Zinke*, federal agencies cannot ignore the impacts from similar, cumulative federal actions—even those in neighboring states. 368 F. Supp. 3d 41, 83 (D.D.C. 2019) (“Given the national, cumulative nature of climate change, considering each individual drilling project in a vacuum deprives the agency and the public of the context necessary to evaluate oil and gas drilling on federal land before irretrievably committing to that drilling.”). Thus, OEA must also assess regional and national impacts from reasonable foreseeable projects outside of Utah.

**c. OEA Must Properly Assess the Significance of Direct, Indirect, and Cumulative Greenhouse Gas Emissions.**

OEA must also properly assess the significance of the greenhouse gas emissions. As the Council on Environmental Quality (“CEQ”) has noted, “a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the

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<sup>135</sup> Jones & DeMille Engineering, Inc., Uinta Rail - RL Banks Report Details Memorandum (2019); R.L. Banks & Associates, Inc and Helios Group Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network (2018).

<sup>136</sup> EPA, Greenhouse Gases Equivalencies Calculator - Calculations and References (2018). Available at: <https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references> (last visited July 31, 2019).

nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA.”<sup>137</sup>

There are variety of tools available to assess significance beyond including an arbitrary percentage.

**i. OEA Is Required to Consider Carbon Budgeting as a Tool for Assessing Significance.**

For example, carbon budgeting is a valuable tool for assessing the significance of GHG emissions in the current context. OEA is required to determine whether this tool would contribute to informed decisionmaking.

The science of carbon budgeting has greatly improved in the last few years, and recent reports demonstrate the evident usefulness of carbon budgeting in assessing the significance of future emissions. For example, the October 2018 IPCC *Global Warming of 1.5°C* special report provided a revised carbon budget for a 66 percent probability of limiting warming to 1.5°C, estimated at 420 GtCO<sub>2</sub> and 570 GtCO<sub>2</sub> depending on the temperature dataset used, from January 2018 onwards.<sup>138</sup> Compared with the average global emissions rate of 36 GtCO<sub>2</sub> per year noted above for 2012-2014, the IPCC explained the global emissions rate has increased to 42 GtCO<sub>2</sub> per year.<sup>139</sup> At this rate, the global carbon budget would be expended in just 10 to 14 years, underscoring the urgent need for transformative global action to transition from fossil fuel use to clean energy.<sup>140</sup>

To put these global carbon budgets in the specific context of domestic U.S. emissions and the U.S.’s obligation to reduce emissions, the U.S. is the world’s largest historic emitter of greenhouse gas pollution, is responsible for 26 percent of cumulative global CO<sub>2</sub> emissions since 1870, and is currently the world’s second highest emitter on an annual and per capita basis.<sup>141</sup> And, federal fossil fuel production contributes to 23% of all U.S. carbon dioxide emissions and to 23% of all U.S. greenhouse gas emissions.<sup>142</sup> Regardless, to conform to a 1.5°C target, the estimated U.S. carbon

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<sup>137</sup> CEQ, Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews 1, 11 (2016). Available at: [https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/nepa\\_final\\_ghg\\_guidance.pdf](https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf). (Although the Trump Administration has since revoked the CEQ’s August 2016 Climate Guidance, the OEA is still bound by the CEQ’s NEPA regulations and existing case law incorporating the requirements of the Guidance. See, e.g., *Sierra Club v. Fed. Energy Regulatory Comm’n*, 867 F.3d 1357, 1374 (D.C. Cir. 2017).)

<sup>138</sup> IPCC SP15, *supra*, at SPM-16.

<sup>139</sup> *Id.*

<sup>140</sup> *Id.*

<sup>141</sup> Global Carbon Atlas, CO<sub>2</sub> Emissions, “Time Series” & “Chart View.” Available at: <http://www.globalcarbonatlas.org/en/CO2-emissions> (last visited July 19, 2019).

<sup>142</sup> See Merrill, M.D., et al., U.S. Geo. Survey, Federal Lands Greenhouse Gas Emissions and Sequestration in the United States—Estimates for 2005–14: Scientific Investigations Report 2018-5131 at 6 (2018). Available at: <https://pubs.er.usgs.gov/publication/sir20185131>.

budget is 25 GtCO<sub>2</sub>eq to 57 GtCO<sub>2</sub>eq on average,<sup>143</sup> depending on the sharing principles used to apportion the global budget across countries.<sup>144</sup> The estimated U.S. carbon budget consistent with limiting temperature rise to 2°C ranges from 34 GtCO<sub>2</sub> to 123 GtCO<sub>2</sub>,<sup>145</sup> again depending on the sharing principles used. Under any scenario, the remaining U.S. carbon budget compatible with the Paris climate targets is extremely small.

Oil Change International recently reaffirmed this conclusion in a report released in January 2019.<sup>146</sup> Specifically, it found that carbon emissions from burning fossil fuel reserves in already-operating or under-construction fields or mines would push the world far beyond warming of 1.5°C and 2°C.<sup>147</sup> In short, *there is no room for new fossil fuel extraction*. Thus, to avoid exceeding the remaining carbon budget: “[1] Governments should cease issuing licenses, leases, and permits for new fossil fuel projects.... [2] Stopping new projects alone will not be enough to keep warming well below 2°C. Governments must also phase out a significant number of existing projects ahead of schedule.”<sup>148</sup> The report also found that:

- Between now and 2030, the United States is on track to account for 60 percent of world growth in oil and gas production, expanding extraction at least four times more than any other country. This is the time period over which climate scientists say global carbon dioxide (CO<sub>2</sub>) emissions should be roughly halved to stay in line with the 1.5°C target in the Paris Agreement.

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<sup>143</sup> Robiou du Pont, Yann et al., *EQUITABLE MITIGATION TO ACHIEVE THE PARIS AGREEMENT GOALS*, 7 NATURE CLIMATE CHANGE 38, Supplemental Tables 1 and 2 (2017). Quantities measured in GtCO<sub>2</sub>eq include the mass emissions from CO<sub>2</sub> as well as the other well-mixed greenhouse gases (CO<sub>2</sub>, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and SF<sub>6</sub>) converted into CO<sub>2</sub>-equivalent values, while quantities measured in GtCO<sub>2</sub> refer to mass emissions of just CO<sub>2</sub> itself.

<sup>144</sup> Robiou du Pont et al. (2017) averaged across IPCC sharing principles to estimate the U.S. carbon budget from 2010 to 2100 for a 50 percent chance of returning global average temperature rise to 1.5°C by 2100, consistent with the Paris Agreement’s “well below 2°C” target, and based on a cost-optimal model. The study estimated the U.S. carbon budget consistent with a 1.5°C target at 25 GtCO<sub>2</sub>eq by averaging across four equity principles: capability (83 GtCO<sub>2</sub>eq), equal per capita (118 GtCO<sub>2</sub>eq), greenhouse development rights (-69 GtCO<sub>2</sub>eq), and equal cumulative per capita (-32 GtCO<sub>2</sub>eq). The study estimated the U.S. budget at 57 GtCO<sub>2</sub>eq when averaging across five sharing principles, adding the constant emissions ratio (186 GtCO<sub>2</sub>eq) to the four above-mentioned principles. However, the constant emissions ratio, which maintains current emissions ratios, is not considered to be an equitable sharing principle because it is a grandfathering approach that “privileges today’s high-emitting countries when allocating future emission entitlements.”

<sup>145</sup> Robiou du Pont et al. (2017) estimated the U.S. carbon budget for a 66 percent probability of keeping warming below 2°C at 60 GtCO<sub>2</sub>eq based on four equity principles (capability, equal per capita, greenhouse development rights, equal cumulative per capita), and at 104 GtCO<sub>2</sub>eq based on five principles (adding in constant emissions ratio, but see footnote above).

<sup>146</sup> Kelly Trout & Lorne Stockman, Oil Change International, *DRILLING TOWARD DISASTER: WHY U.S OIL & GAS EXPANSION IS INCOMPATIBLE WITH CLIMATE LIMITS*, 1, 6 (2019). Available at: <http://priceofoil.org/content/uploads/2019/01/Drilling-Towards-Disaster-Web-v3.pdf>; see also Peter Erickson et al., *PRINCIPLES FOR ALIGNING U.S. FOSSIL FUEL EXTRACTION WITH CLIMATE LIMIT*, Stockholm Environmental Institute (2019). Available at: <https://www.sci.org/wp-content/uploads/2019/02/principles-for-aligning-fossil-fuel-extraction-w-climate-limits.pdf> (articulating three principles to guide the U.S.’ impending transition away from fossil fuels).

<sup>147</sup> Kelly Trout & Lorne Stockman, Oil Change International, *DRILLING TOWARD DISASTER*, *supra*, at 11.

<sup>148</sup> *Id.*

- Between 2018 and 2050, the United States is set to unleash the world's largest burst of CO2 emissions from new oil and gas development (Figure ES-2). U.S. drilling into new oil and gas reserves – primarily shale – could unlock 120 billion metric tons of CO2 emissions, which is equivalent to the lifetime CO2 emissions of nearly 1,000 coal-fired power plants.
- If not curtailed, U.S. oil and gas expansion will impede the rest of the world's ability to manage a climate-safe, equitable decline of oil and gas production. We find that, under an illustrative 1.5°C pathway for oil and gas taken from the IPCC, U.S. production would exhaust nearly 50 percent of the world's total allowance for oil and gas by 2030 and exhaust more than 90 percent by 2050.
- Nearly 60 percent of the 120 billion tons of CO2 emissions unlocked by new U.S. oil and gas drilling from 2018 to 2050 is set to come from the Permian and Appalachian Basins (Figure ES-3).
- The CO2 pollution enabled by oil and gas production in the Permian Basin from 2018 through 2050 could exhaust close to 10 percent of the entire world's carbon budget for staying within 1.5°C of warming. By its projected peak year of production, 2029, the Permian Basin could see nearly as much oil extraction as Saudi Arabia does today.

As demonstrated above, climate science is ever evolving and extremely relevant to OEA's work. Without accounting for recent reports, OEA would be approving actions in the dark, without the full picture of climate change before it and contrary to the requirements of NEPA.

The D.C. District Court in Court *WildEarth Guardians v. Zinke* mandated consideration of such measures to assess significance. “[O]n remand, BLM must reassess whether the social cost of carbon or another methodology [carbon budgets] for quantifying climate change may contribute to informed decisionmaking...” 368 F. Supp. 3d 41, 76 n.31 (D.D.C. 2019).

In sum, with 1°C of warming from historic levels already measured, and additional warming already locked in from recent GHG emissions, the window for preventing catastrophic climate change is rapidly closing. Carbon budgeting represents a valuable and ever-improving tool to assess how OEA's actions are contributing to the global climate crisis. And as the D.C. District Court recently recognized, OEA has a legal obligation under NEPA to take a hard look at the cumulative impacts of its leasing decisions in context of the current climate crisis. Since carbon budget analysis based on recent studies would contribute to informed decision-making, OEA must utilize this tool in its assessment of the impacts of the proposed railway. Here, because this project would open up vast areas of new fossil fuel extraction, it would contribute to exceedance of the remaining carbon budget and significantly impact the climate.

**d. OEA Must Consider Analyzing the Costs of Reasonably Foreseeable Carbon Emissions Using Well-Accepted, Credible, GAO-Endorsed, Interagency Methods for Assessing Carbon Costs.**

The social cost of carbon is another useful tool at OEA's disposal to help the agency and its decision-makers to fully understand the significance of the GHG emissions enabled by its decisions. The social cost of carbon protocol for assessing climate impacts is a method for "estim[ing] the economic damages associated with a small increase in carbon dioxide (CO<sub>2</sub>) emissions, conventionally one metric ton, in a given year [and] represents the value of damages avoided for a small emission reduction (i.e. the benefit of a CO<sub>2</sub> reduction)."<sup>149</sup> The social cost of carbon provides a useful, valid, and meaningful tool for assessing the climate consequences of the proposed leasing, and the OEA's failure to utilize this available tool would be arbitrary and capricious. The protocol was developed by a working group consisting of several federal agencies.

NEPA does not, of course, require agencies to monetize adverse impacts in all cases. *See* 40 C.F.R. § 1502.23. NEPA does, however, require agencies to take a hard look at the "ecological ..., aesthetic, historic, cultural, economic, social, [and] health," effects of their actions, "whether direct, indirect, or cumulative." *Id.* § 1508.8. Monetization of costs may be required where available "alternative mode[s] of [NEPA] evaluation [are] insufficiently detailed to aid the decision-makers in deciding whether to proceed, or to provide the information the public needs to evaluate the project effectively." *Columbia Basin Land Prot. Ass'n v. Schlesinger*, 643 F.2d 585, 594 (9th Cir. 1981).

The Interagency Working Group was formed in 2009 to develop the protocol and issued its initial final estimates of carbon costs in 2010.<sup>150</sup> These estimates were then refined in 2013,<sup>151</sup> 2015,<sup>152</sup> and 2016.<sup>153</sup> In 2016, the Department of the Interior joined numerous other agencies in preparing estimates of the social cost of methane and other greenhouse gases.<sup>154</sup>

Depending on the discount rate and the year during which the carbon emissions are produced, the Interagency Working Group estimates the cost of carbon emissions, and therefore the benefits of reducing carbon emissions, to range from \$10 to \$212 per metric ton of carbon dioxide. *See* Table 1

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<sup>149</sup> U.S. Environmental Protection Agency ("EPA"), "Fact Sheet: Social Cost of Carbon" (2013) at 1, formerly available online at <https://www.epa.gov/climatechange/social-cost-carbon>.

<sup>150</sup> *See* Interagency Working Group on Social Cost of Carbon, "Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866" (2010). Available at: [https://www.epa.gov/sites/production/files/2016-12/documents/scc\\_tsd\\_2010.pdf](https://www.epa.gov/sites/production/files/2016-12/documents/scc_tsd_2010.pdf).

<sup>151</sup> *See* Interagency Working Group on Social Cost of Carbon, "Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866" (2013). Available at: <https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/inforeg/technical-update-social-cost-of-carbon-for-regulator-impact-analysis.pdf>.

<sup>152</sup> *See* Interagency Working Group on Social Cost of Carbon, "Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866" (2015).

<sup>153</sup> *See* Interagency Working Group on Social Cost of Greenhouse Gases, "Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis – Under Executive Order 12866" (2016). Available at:

[https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc\\_tsd\\_final\\_clean\\_8\\_26\\_16.pdf](https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc_tsd_final_clean_8_26_16.pdf).

<sup>154</sup> *Id.*

Below. In one of its more recent updates to the Social Cost of Carbon Technical Support Document, the White House’s central estimate was reported to be \$36 per metric ton.<sup>155</sup>

In July 2014, the U.S. Government Accountability Office (“GAO”) confirmed that the Interagency Working Group’s estimates were based on sound procedures and methodology.<sup>156</sup>

| Year | 5%<br>Average | 3%<br>Average | 2.5%<br>Average | High Impact<br>(95 <sup>th</sup> Pct at 3%) |
|------|---------------|---------------|-----------------|---------------------------------------------|
| 2010 | 10            | 31            | 50              | 86                                          |
| 2015 | 11            | 36            | 56              | 105                                         |
| 2020 | 12            | 42            | 62              | 123                                         |
| 2025 | 14            | 46            | 68              | 138                                         |
| 2030 | 16            | 50            | 73              | 152                                         |
| 2035 | 18            | 55            | 78              | 168                                         |
| 2040 | 21            | 60            | 84              | 183                                         |
| 2045 | 23            | 64            | 89              | 197                                         |
| 2050 | 26            | 69            | 95              | 212                                         |

**Table 1.** *Most recent social cost of carbon estimates presented by Interagency Working Group on Social Cost of Carbon. The 95th percentile value is meant to represent “higher-than-expected” impacts from climate change.*

Although often utilized in the context of agency rulemakings, the protocol has been recommended for use and has been used in project-level decisions. For instance, the EPA recommended that an EIS prepared by the U.S. Department of State for the proposed Keystone XL oil pipeline include “an estimate of the ‘social cost of carbon’ associated with potential increases of GHG emissions.”<sup>157</sup>

The requirement to analyze the social cost of carbon is supported by the general requirements of NEPA and is specifically supported in federal case law. Courts have ordered agencies to assess the social cost of carbon pollution, even before a federal protocol for such analysis was adopted. In 2008, the U.S. Court of Appeals for the Ninth Circuit ordered the National Highway Traffic Safety Administration to include a monetized benefit for carbon emissions reductions in an Environmental Assessment prepared under NEPA. *Center for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1203 (9th Cir. 2008). The Highway Traffic Safety Administration had proposed a rule setting corporate average fuel economy standards for light trucks. A number of states and public interest groups challenged the rule for, among other things, failing to monetize the benefits that would accrue from a decision that led to lower carbon dioxide emissions. The

<sup>155</sup> *Id.* at 4.

<sup>156</sup> See GAO, “Regulatory Impact Analysis, Development of Social Cost of Carbon Estimates,” GAO-14-663 (2014), Available at: <http://www.gao.gov/assets/670/665016.pdf>.

<sup>157</sup> EPA, Comments on Supplemental Draft EIS for the Keystone XL Oil Pipeline (2011). Available at: [https://www.eenews.net/assets/2011/06/07/document\\_gw\\_02.pdf](https://www.eenews.net/assets/2011/06/07/document_gw_02.pdf)

Administration had monetized the employment and sales impacts of the proposed action. *Id.* at 1199. The agency argued, however, that valuing the costs of carbon emissions was too uncertain. *Id.* at 1200. The court found this argument to be arbitrary and capricious. *Id.* The court noted that while estimates of the value of carbon emissions reductions occupied a wide range of values, the correct value was certainly not zero. *Id.* It further noted that other benefits, while also uncertain, were monetized by the agency. *Id.* at 1202.

In 2014, a federal court did likewise for a federally-approved coal lease. That court began its analysis by recognizing that a monetary cost-benefit analysis is not universally required by NEPA. *See High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F.Supp. 3d 1174, 1193 (D. Colo. 2014) (citing 40 C.F.R. § 1502.23). However, when an agency prepares a cost-benefit analysis, “it cannot be misleading.” *Id.* at 1182 (citations omitted). In that case, the NEPA analysis included a quantification of benefits of the project, but, the quantification of the social cost of carbon, although included in earlier analyses, was omitted in the final NEPA analysis. *Id.* at 1196. The agencies then relied on the stated benefits of the project to justify project approval. This, the court explained, was arbitrary and capricious. *Id.* Such approval was based on a NEPA analysis with misleading economic assumptions, an approach long disallowed by courts throughout the country. *Id.* Furthermore, the court reasoned that even if the agency had decided that the social cost of carbon was irrelevant, the agency must still provide “*justifiable reasons* for not using (or assigning minimal weight to) the social cost of carbon protocol . . . .” *Id.* at 1193 (emphasis added). In August 2017, a federal district court in Montana cited to the *High Country* decision and reaffirmed its reasoning, rejecting a NEPA analysis for a coal mine expansion that touted the economic benefits of the expansion without assessing the carbon costs that would result from the development. *See Mont. Env'tl. Info. Ctr. v. U.S. Office of Surface Mining*, No. CV 15-106-M-DWM (D. Mont. Aug. 14, 2017).

In 2017, the Proceedings of the National Academy of Sciences of the United States of America (PNAS), acknowledged in a peer-reviewed article from February of this year that the social cost of carbon analysis is “[t]he most important single economic concept in the economics of climate change,” and that “federal regulations with estimated benefits of over \$1 trillion have used the SCC.”<sup>158</sup>

Ultimately, the social cost of carbon protocol presents a conservative estimate of economic damages associated with the environmental impacts climate change. As the EPA has noted, the protocol “does not currently include all important [climate change] damages.”<sup>159</sup> As explained:

The models used to develop [social cost of carbon] estimates do not currently include all of the important physical, ecological, and economic impacts of climate change recognized in the climate change literature because of a lack of precise information on the nature of damages

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<sup>158</sup> William D. Nordhaus, Revisiting the Social Cost of Carbon, PNAS (2017). Available at: <http://www.pnas.org/content/114/7/1518.full.pdf>.

<sup>159</sup> EPA Factsheet on SCC, *supra*, at 1.

and because the science incorporated into these models naturally lags behind the most recent research.

*Id.* In fact, more recent studies have reported significantly higher carbon costs. For instance, a report published in 2015 found that current estimates for the social cost of carbon should be increased six times for a mid-range value of \$220 per ton.<sup>160</sup> And a report from 2017, estimated carbon costs to be \$50 per metric ton, a value that experts have found to be the “best estimate of the social cost of greenhouse gases.”<sup>161</sup> In spite of uncertainty and likely underestimation of carbon costs, nevertheless, “the SCC is a useful measure to assess the benefits of CO2 reductions,” and thus a useful measure to assess the costs of CO2 increases.<sup>162</sup>

## VI. Air Quality

### a. Background

#### i. Ozone

Short and long-term exposure to ozone, even at levels below the national standard, causes adverse health impacts. Ozone has immediate adverse effects, causing shortness of breath, wheezing and coughing; asthma attacks; inflamed and damaged the airways and increased risk of respiratory infections and hospital visits for people with lung diseases, like asthma or chronic obstructive pulmonary disease.<sup>163</sup> Exposures to high ozone levels for as little as one hour can lead to a particular type of cardiac arrhythmia that itself increases the risk of premature death and stroke.<sup>164</sup>

Long term exposure to ozone increases the risk of death from respiratory diseases and means more hospital admissions for children with asthma, with younger children and children from low-income families more likely than other children to need hospital admissions.<sup>165</sup> Long-term exposure to ozone also leads to the development of asthma and lower birthweight and decreased lung function in newborns.<sup>166</sup>

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<sup>160</sup> See Francis C. Moore, and Delvane B. Diaz, “Temperature impacts on economic growth warrant stringent mitigation policy,” *Nature Climate Change* 2 (2015).

<sup>161</sup> See Revesz, R. *et al.* “Best cost estimate of greenhouse gases,” 357 *Science* 655, 655 (2017).

<sup>162</sup> EPA Factsheet on SCC, *supra*.

<sup>163</sup> American Lung Association, Ozone (2019a). Available at: <https://www.lung.org/our-initiatives/healthy-air/outdoor/air-pollution/ozone.html>

<sup>164</sup> Rich D.Q., M.A. Mittleman, M.S. Link, J. Schwartz, H. Luttmann-Gibson, P.J. Catalano, F.E. Speizer, D.R. Gold, D.W. Dockery, Increased Risk of Paroxysmal Atrial Fibrillation Episodes Associated with Acute Increases in Ambient Air Pollution. *Environ Health Perspect.* 2006; 114:120-123. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/16393668>

<sup>165</sup> Environmental Protection Agency, Health Effects of Ozone Pollution (2019a). Available at: <https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution>

<sup>166</sup> *Id.*

Children and teens, individuals 65 and older, people who work or exercise outdoors, persons with lung diseases and people with cardiovascular disease are particularly vulnerable to ozone pollution.<sup>167</sup> According to EPA:

Children are at greatest risk from exposure to ozone because their lungs are still developing and they are more likely to be active outdoors when ozone levels are high, which increases their exposure. Children are also more likely than adults to have asthma.<sup>168</sup>

Studies indicate that women, people who suffer from obesity and people with low incomes are also more likely to suffer adverse impacts from exposure to ozone.<sup>169</sup> Moreover, research shows that even at levels well below the current standard, ozone increases risk of premature death in older adults.<sup>170</sup>

Ozone also harms plant and animal communities. Ozone damages sensitive vegetation, particularly during the growing season, and harms ecosystems, including forests, parks, wildlife refuges and wilderness areas.<sup>171</sup> Ozone pollution leads to a loss of species diversity, damages habitat quality and alters water and nutrient cycles.<sup>172</sup>

Ozone also impairs visibility, including at National Parks and National Forests. The Forest Service states regarding ozone, that “in the summer it is usually associated with pollution episodes involving haze and participates in chemical reactions that lead to haze-forming particles.”<sup>173</sup>

“Ozone can also be transported long distances by wind.”<sup>174</sup> Colorado has confirmed that emissions of ozone precursors and ozone itself from neighboring states, including Utah, adversely impact air quality in Colorado.<sup>175</sup> This means that any individual or cumulative increases in concentrations of ozone or emissions of ozone precursors in Utah will adversely impact air quality in downwind states.

The Uinta Basin was designated a marginal nonattainment area for the 2015 8-hour ozone standard on August 3, 2018. To avoid being designated a moderate nonattainment area, the Uinta

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<sup>167</sup> See ALA 2019

<sup>168</sup> See EPA 2019

<sup>169</sup> See ALA 2019

<sup>170</sup> Di, Q., L. Dai, Y. Wang, A. Zanobetti, C. Choirat, J.D. Schwartz, F. Dominici, Association of Short-Term Exposure to Air Pollution with Mortality in Older Adults. JAMA. 2017; 318: 2446-2456. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/29279932>

<sup>171</sup> EPA, Ecosystem Effects of Ozone Pollution (2017). Available at: <https://www.epa.gov/ground-level-ozone-pollution/ecosystem-effects-ozone-pollution>

<sup>172</sup> *Id.*

<sup>173</sup> USFS, US Forest Service Interpreting Visibility Data (2010). Available at: <https://www.fsvisimages.com/visdata.aspx>

<sup>174</sup> EPA, Ground-level Ozone Basics (2018a). Available at: <https://www.epa.gov/ground-level-ozone-pollution/ground-level-ozone-basics>

<sup>175</sup> Parsons, Z. and S. Arnold, Colorado Department of Public Health and Environment. Ozone Transport in the West An Exploratory Study (2004). Available at: [https://www.colorado.gov/pacific/sites/default/files/AP\\_PO\\_Ozone-Transport-in-the-West.pdf](https://www.colorado.gov/pacific/sites/default/files/AP_PO_Ozone-Transport-in-the-West.pdf)

Basin will need to show attainment of the 2015 standard by August 3, 2021.<sup>176</sup> According to Bryce Bird, Director of the Utah Division of Air Quality, due to the “complexity” of ozone formation in the Uinta Basin, current computer models do not show that the area will attain the standard by the August 2021 deadline.<sup>177</sup>

Ozone concentrations in the Uinta Basin, which occur largely in the winter, are directly tied to oil and gas development.<sup>178</sup> As the State of Utah has concluded relative to the Uinta Basin:

NO<sub>x</sub> comes from hot combustion sources, and the highest levels are in the oil production areas and population centers. VOC comes from oil and gas production with the highest levels in the gas production areas.<sup>179</sup>

Ozone is not emitted directly. Rather, ozone is created by chemical reactions between NO<sub>x</sub> and volatile organic compounds (VOCs) in the presence of sunlight.<sup>180</sup> According to the Utah Division of Air Quality, in the Uinta Basin, “chemical reactions” during the wintertime ozone forming “episodes differ greatly from summer ozone formation in urban areas.”<sup>181</sup> This means that modeling designed to predict the formation of ozone in urban environments will not accurately represent ozone formation in the Uinta Basin.

According to Utah’s most recent emissions inventory data, emissions of NO<sub>x</sub> in Uintah County are already at 9,788 tons per year (tpy) and VOC emissions have reached 100,553 tpy, the highest level in any Utah county.<sup>182</sup> NO<sub>x</sub> emissions in Duchesne County are 8,037 tpy and VOC emissions are 44,797 tpy.<sup>183</sup>

## **ii. PM<sub>2.5</sub>**

Also of concern in the Uinta Basin are high short term concentrations of PM<sub>2.5</sub>.<sup>184</sup> These small particles lodge in the lungs, heart, and the bloodstream.<sup>185</sup> As a result, PM<sub>2.5</sub> causes adverse health impacts, including premature death, heart attack, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms, such as irritation of the airways,

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<sup>176</sup> UDAQ, Utah Division of Air Quality 2018 Annual Report at 35 (2018). Available at: <https://documents.deq.utah.gov/air-quality/annual-reports/DAQ-2019-000949.pdf>

<sup>177</sup> Penrod, E. Feds give Utah three years to bring ozone pollution down to acceptable levels (2018). Available at: <https://www.sltrib.com/news/environment/2018/05/01/feds-give-utah-three-years-to-bring-ozone-pollution-down-to-acceptable-levels/>

<sup>178</sup> UDAQ, Ozone in the Uinta Basin (2019). Available at: <https://deq.utah.gov/air-quality/ozone-in-the-uinta-basin>

<sup>179</sup> See UDAQ 2018 at 34.

<sup>180</sup> See EPA 2018

<sup>181</sup> See UDAQ 2018 at 34.

<sup>182</sup> See UDAQ 2018 at 24.

<sup>183</sup> *Id.*

<sup>184</sup> *E.g.* UDAQ 2018 at 18; UDAQ, Particulate Matter PM 2.5 (2018). Available at: <http://www.airmonitoring.utah.gov/dataarchive/archpm25.htm>

<sup>185</sup> EPA, Health and Environmental Effects of Particulate Matter (PM), (2018b). Available at: <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm>

coughing or difficulty breathing.<sup>186</sup> Even exposure to relatively low levels of PM<sub>2.5</sub> causes premature death. Several studies have found that older adults exposed to concentrations of PM<sub>2.5</sub> lower than the national standard were more likely to die prematurely.<sup>187</sup> Those most susceptible to the adverse effects of PM<sub>2.5</sub> include individuals with heart and lung diseases, children, and older adults.<sup>188</sup>

PM<sub>2.5</sub> can be emitted directly, but significant amounts of PM<sub>2.5</sub> can form in the atmosphere from SO<sub>2</sub>, NO<sub>x</sub>, VOCs and ammonia.<sup>189</sup> Like ozone, PM<sub>2.5</sub> can be carried by wind over long distances.<sup>190</sup> PM<sub>2.5</sub> pollution damages ecosystem values, including impairing water quality, depleting soil nutrients, damaging sensitive vegetation, decreasing biodiversity, and contributing to acid rain.<sup>191</sup> “Fine particles (PM<sub>2.5</sub>) are the main cause of reduced visibility (haze) in parts of the United States, including many of our treasured national parks and wilderness areas.”<sup>192</sup>

### iii. The Federal Agency’s NEPA Obligations Relative to Air Quality

As part of their NEPA obligations, STB and its cooperating agencies must explain how their actions will or will not comply with environmental laws and policies. 40 C.F.R. § 1508.27(b) (stating federal agencies must consider “[w]hether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment”); *see also id.* § 1502.2(d) (“Environmental impact statements shall state how alternatives considered in it and decisions based on it will or will not achieve the requirements of [NEPA] and other environmental laws and policies.”).<sup>193</sup>

Therefore, at a minimum, the OEA’s EIS must explain how any approval of the proposed project or its alternatives will comply with the Clean Air Act, including attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) and limits on increment consumption and the National Forest Management Act (NFMA). Further, the EIS must explain, for each alternative considered, how implementation of that alternative will or will not achieve the requirements of these and other environmental statutes.

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<sup>186</sup> ALA, Particle Pollution (2019b). Available at: <https://www.lung.org/our-initiatives/healthy-air/outdoor/air-pollution/particle-pollution.html#cando>

<sup>187</sup> *Id.*

<sup>188</sup> EPA, Health and Environmental Effects of Particulate Matter (2018c). Available at: <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm>

<sup>189</sup> Mathias, S. and R. Wayland, USEPA, Fine Particulate Matter (PM<sub>2.5</sub>) Precursor Demonstration Guidance (2019). Available at: [https://www.epa.gov/sites/production/files/2019-05/documents/transmittal\\_memo\\_and\\_pm25\\_precursor\\_demo\\_guidance\\_5\\_30\\_19.pdf](https://www.epa.gov/sites/production/files/2019-05/documents/transmittal_memo_and_pm25_precursor_demo_guidance_5_30_19.pdf) at 6.

<sup>190</sup> EPA, Particulate Matter (PM) Basics (2018d). Available at: <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics>

<sup>191</sup> *Id.*

<sup>192</sup> *See* EPA 2018b.

<sup>193</sup> Pursuant to the Clean Air Act, federal agencies are required to comply with all applicable air quality laws, regulations, standards and implementation plans. 42 U.S.C. § 7418(a). Importantly, the requirements of 42 U.S.C. § 7418(a)(1) and (a)(2) apply “to the exercise of any Federal, State, or local administrative authority[.]” 42 U.S.C. § 7418(a)(2)(C).

Because the proposed project will adversely impact or may adversely impact air quality and air quality related values on the Ashley National Forest, the 1986 Ashley National Forest Land and Resource Management Plan (“1986 Forest Plan”) is relevant to the OEA’s EIS. Further, the Forest Service must comply with and ensure that any approvals related to the proposed project are consistent with the relevant forest plan. 16 U.S.C. § 1604(i). For this reason, the OEA’s EIS must consider the degree to which the proposed project and its alternatives conform to the 1986 Forest Plan.

The 1986 Forest Plan requires the Forest Service to maintain air quality related values, Plan at IV-37, and “to control and minimize air pollution impacts from land management activities.” *Id.* at IV-42. To this end, the agency must: 1) “integrate air resource management objectives into all resource planning and management activities;” 2) “detect and monitor the effects of air pollution . . . on Forest resources” and “monitor air pollutants when Forest Service goals and objectives are at risk;” 3) “preserve and protect air quality related values (AQRV) within the Flaming Gorge NRA and High Uintas Wilderness;” and, 4) “determine the air quality or AQRV condition (base level) from which increments of limits of acceptable change will be measured.” Plan at IV-42. Each of these mandates must be addressed in the STB NEPA analysis and the degree to which the direct, indirect, and cumulative impacts of the rail line proposal and its alternatives comport with these directives.

The 1986 Forest Plan directs the Forest Service to “manage fish and wildlife habitat to maintain or improve diversity and productivity.” Plan at IV-28. In addition, the Forest Service must “manage the habitat of all . . . sensitive plant and animal species to maintain or enhance their status.” Plan at IV-30; *see also id.* (“management activities will be allowed if they will not adversely affect any . . . sensitive species”). Given that air pollution from the proposed project threatens ecosystem values, visibility, sensitive vegetation, water quality and other air quality related values, the impact of the project and its alternatives on the Forest Service’s obligation to protect wildlife and plant communities must be addressed in full.<sup>194</sup>

BLM, a cooperating agency, has recognized its legal obligation to secure and analyze the appropriate level of air quality information in its NEPA documents, use authorizations and permit, assigning to the State Director the responsibility of “[w]orking to ensure an appropriate level of climate, air quality, and climate change information and analysis is incorporated into applicable . . . NEPA documents, use authorizations, and BLM activities, programs, projects, and permits.” BLM Manual at 7300.04(C)(3). “In cooperation with the applicable regulatory entities,” the BLM State Director must also “evaluat[e] consumption and existing use of air quality increments, and determin[e] potential influence on existing and future BLM activities, programs, and projects, and

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<sup>194</sup> The 1986 Forest Plan also establishes “tolerance limits” that indicate when the actual performance of the Plan has unacceptably varied from the “predicted performance” of the Plan. Plan at V-2. “When these limits are exceeded, further evaluation is required.” *Id.* For example, a “violation of State Air Quality Standards and adverse public reactions” are sufficient to “cause further evaluation and/or a change in management direction,” Plan at V-13, as is a “violation of State Water Quality Standards or a 20% increase in predicted sediment yield,” *id.* at V-11, a “violation of Forest Riparian Standards and Guidelines,” *id.* at V-14, “or a 10% drop in the breeding population of sage grouse.” *Id.* at V-7.

BLM-authorized activities.” BLM Manual at 7300.04(C)(6). As a result, the OEA’s EIS must meet these obligations.

The STB and its cooperating agencies must also consider the direct, indirect and cumulative adverse air quality impacts of the proposed project. Importantly, the railway project is specifically designed to carry approximately six times the crude that is currently produced in the Uinta Basin. The Coalition maintains that the railway will have “capacity to gather and load up to approximately 500,000 barrels per day of crude oil product or other bulk commodity,”<sup>195</sup> while production in the Basin was assumed to be capped at 85,000 barrels a day.<sup>196</sup>

In addition, a feasibility study commissioned by the Coalition concluded that as a direct result of the construction and operation of the railway, production in the Uinta Basin will increase to a minimum of 255,000 barrels per day:

Basin oil producers will be able and motivated to extract, and market conditions will encourage the extraction of, no less 225,000 bpd on a consistent basis if the railroad is built and operated as presently envisioned. That threshold volume has been articulated by several major oil producers in the Basin even though it represents almost a tripling of recent production volumes there.<sup>197</sup>

This same feasibility study determines that the railway could increase production in the Basin to 350,000 barrels per day.<sup>198</sup>

Further, the Coalition defends the utility and financial stability of the railway by maintaining that it will ship significant crude to Gulf Coast refineries. Project proponents claim that one of the reasons that that railroad, designed with a capacity of 500,000 barrels of crude a day, is practical and indeed will turn the demanded profit,<sup>199</sup> is because demand from Gulf Coast refineries “exists today for at least somewhere between 320,000 and 340,000 bpd of Basin oil.”<sup>200</sup>

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<sup>195</sup> See Drexel SCIC 2019 at 1.

<sup>196</sup> See SCIC No Date at 3.

<sup>197</sup> See RL Banks & Associates and Helios Group Inc 2018 at 15.

<sup>198</sup> *Id.* at 17 (explaining “a much higher figure, 350,000 bpd was employed in the Higher forecast, based on the oft-repeated pronouncements made by at least one of the leading oil producers in the Basin and other knowledgeable experts during interviews conducted in connection with this study effort”).

<sup>199</sup> See Drexel SCIC 2019; SCIC, Request for Information

For the Commercialization, Financing, Construction, Operation, and Maintenance of the Uinta Basin Railway (2019c)(acknowledging that the Coalition requires that the proposed project generate a revenue stream for the Coalition, noting that a goal of the project is to “[p]rovide a permanent revenue stream to the Coalition. This revenue stream could take the form of a share of profits, a share of gross revenues, a fixed monthly payment, or a one-time annuity. The Coalition seeks in this RFI suggested forms for this revenue stream.”)

<sup>200</sup> See RL Banks Associates and Helios Group Inc 2018.pdf at 16.

The OEA's EIS must analyze the air quality impacts of the diesel locomotives originating due to the UBR. Diesel emissions such as those created by train locomotives have significant and unique health impacts.<sup>201</sup>

Finally, according to Carbon County Commissioner Hopes, who helped spearhead the proposed project, a goal of the Uinta Railroad and certainly a cumulative impact of the plan is to ship more Uinta Basin crude through Carbon County and ultimately to the Salt Lake City Inland Port.<sup>202</sup> The project would necessarily result in the construction of at least one transloading facility at the terminus of the railway in the Uinta Basin. In response to an inquiry by the OEA, the SCIC responded:

The terminus points were chosen based on the potential for transload facility developers to assemble real estate in sufficient size to construct a facility capable of handling complete unit trains. Generally, a terminal or transload capable of accepting unit trains must be at least 200 acres in size.<sup>203</sup>

A transloading facility of this size, with the capacity to load as much as 500,000 bopd, would stand to be a major source of emissions. For an instructive example of a similar transloading facility acting as a major emissions source, the OEA should examine the Bakersfield Crude Terminal, an oil train terminal that in 2015 was found by the EPA to be in violation of the Clean Air Act.

Colorado likewise confirms that the proposed project will increase air pollution, including in Colorado:

[A]ccording to the Uinta Basin Railway Project website, the proposed action may result in increased oil and gas, agriculture, and mining activity. Emissions from these activities can travel great distances, affecting air quality and public health including in the Denver/North Front Range ozone nonattainment area.<sup>204</sup>

As a result of the significant and widespread nature of the direct, indirect and cumulative impacts of the proposed project on air quality, the OEA's EIS must address these impacts in: 1) the Uinta Basin; 2) communities downwind from the Uinta Basin, including those in Colorado; 3) Class I and Class II areas including Dinosaur National Monument and the Ashley National Forest; 4) Salt Lake County, the site of the Inland Port; 5) Carbon County, the site of hubs for the Inland Port; and,

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<sup>201</sup> California Air Resources Board, Overview: Diesel Exhaust & Health (2019). Available at: <https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health>

<sup>202</sup> Castle Country Radio, Commissioner Casey Hopes Talks about the Uinta Basin Railway (2019). Available at: <http://www.castlecountryradio.com/2019/05/22/commissioner-casey-hopes-talks-about-the-uinta-basin-railway/>

<sup>203</sup> SCIC, Seven County Infrastructure Coalition's Response to the STB Office of Environmental Analysis April 12, 2019 Request for Information # 1 (2019d). Available at: [https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/F2E4FDAE6C9F755E852584040522EC0/\\$File/EI-26490.pdf?OpenElement](https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/F2E4FDAE6C9F755E852584040522EC0/$File/EI-26490.pdf?OpenElement)

<sup>204</sup> CDPHE, Re: Colorado Department of Public Health and Environment's Preliminary Comments on the Proposed Uinta Rail Line (2019). Available at: [https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/C17CF5888BC87EC185258404056F2A7/\\$File/EI-26511.pdf?OpenElement](https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/C17CF5888BC87EC185258404056F2A7/$File/EI-26511.pdf?OpenElement)

6) Gulf Coast or any other communities in and around any refinery where it is reasonably foreseeable that Uinta Crude will be shipped (*see* “Train Routes and Destinations” section of these comments).

To adequately meet its obligations to address air quality impacts, the EIS must, at a minimum:

- Given the pollution that will result from the construction, operation and maintenance of the railway, evaluate any resulting differences in air quality impacts stemming from the different alignments, including rail termini and turn outs where trains may be idling.
- Identify, quantify, and evaluate baseline conditions and background concentration for criteria and hazardous pollutants using existing monitoring data.
- Identify, quantify, and evaluate baseline conditions in Class I and Class II areas, including of air quality related values such as visibility, water quality, sensitive plants and lichen, and other ecosystem components impacted by air pollution.
- Identify, quantify, and evaluate baseline conditions in the Uinta Basin nonattainment area.
- Calculate and model (near and far field) criteria, hazardous and fugitive emissions (including dust) and determine GHG emissions that will result from the construction, operation and maintenance of the proposed railway and its alternatives.
- Characterize, quantify and model (near and far field) the impacts of the reasonably foreseeable increases in hazardous and criteria pollutants and GHGs in the locations listed above and evaluate the impacts of these increases on human health and ecosystem values.
- Calculate downstream emissions from fossil fuel combustion transported by railway.

Furthermore, for the portions of the project that will occur within any nonattainment area, the EIS must undertake a thorough evaluation of and ensure compliance with the Clean Air Act’s General Conformity and Transportation Conformity requirements. Further, the EIS must explain, for each alternative considered, how implementation of that alternative will or will not achieve these conformity requirements.

Similarly, Colorado recently established new greenhouse gas (GHG) emissions reduction goals of 50% GHG reductions by 2030 and 90% GHG reductions by 2050 (based on 2005 levels). Therefore, the EIS must explain, for each alternative considered, how implementation of that alternative will or will not be consistent with this state law.

The weakening of the regulation of air pollution by the current administration must also be analyzed as part of the NEPA process. This deregulation, for example, the repeal of the Methane Rule and the Clean Power Plan, will guarantee that air pollution in the Uinta Basin will worsen, particularly if the new development that project proponents propose is developed.

The Wasatch Front is a serious nonattainment area for the 2006 short-term NAAQS for fine particulate matter. Moreover, in August, 2018 the EPA designated portions of the Wasatch Front as a nonattainment area for ozone. The NEPA analysis must consider the indirect and cumulative effects of the proposed project on air quality along the Wasatch Front.

Finally, relative to Dinosaur National Monument, the EIS must address, at a minimum, adverse impacts from the proposed project to visibility, the health of park staff and visitors, and ecosystem values.

## VII. Environmental Justice

NEPA requires federal agencies to consider the “environmental justice” impacts of their proposed actions. Executive Order 12898 requires federal agencies that are complying with NEPA to consider environmental effects on human health, and economic and social effects, specifically within minority and low-income populations that are disproportionately impacted by environmental detriment. Proposed federal actions must address significant and adverse environmental effects on minority and low-income populations. Because the proposed project will have or has the potential to have disproportional adverse impacts on low income and minority communities and persons, the OEA should follow the methods outlined in the Environmental Justice Interagency Working Group’s *Promising Practices for EJ Methodologies in NEPA Reviews*.<sup>205</sup>

These mandated methodologies include the meaningful engagement of impacted communities; appropriately defining the affected environment; consideration of the unique conditions of the potentially affected minority populations and low-income populations; and, the creation and implementation of one or more alternatives that address and mitigate impacts to minority populations and low-income populations.<sup>206</sup>

The OEA’s EIS must also reflect an understanding that minority populations and low-income populations may have increased or unique vulnerabilities from cumulative impacts and must evaluate these vulnerabilities as well as design alternatives to address them. Therefore, the resulting EIS must examine the ways in which minority populations and low-income populations may be differently affected by the individual and cumulative impacts of the proposed project than the general population will be impacted. Finally, “[p]otential direct, indirect, and cumulative impacts on minority populations and low-income populations in the affected environment include both human health and environmental impacts from an agency’s programs, policies, or activities.”<sup>207</sup>

As EPA states, there are several communities located along the proposed alignments for the railway, the status of which triggers environmental justice review:

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<sup>205</sup> EPA, *Promising Practices for EJ Methodologies in NEPA Reviews* (2016). Available at: [https://www.epa.gov/sites/production/files/2016-08/documents/nepa\\_promising\\_practices\\_document\\_2016.pdf](https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf)

<sup>206</sup> *Id.*

<sup>207</sup> *Id.* at 29.

Three of the census blocks around Myton, Utah indicate that there may be potential Environmental Justice communities that could be adversely affected by the proposed project.<sup>208</sup>

Therefore, the OEA's EIS must include a thorough evaluation of the impacts, and especially the disproportionate impacts, of the project on these communities. Individual, direct, indirect, and cumulative impacts during construction and operation that must be addressed include noise, vibration, dust, and fugitive and point source emissions of criteria and hazardous air pollutants. Consequences to these communities that must be evaluated include increased traffic and emergency response times, as neighborhoods may lose connectivity and cohesiveness as a result of the project and its alternatives. Alternatives must be considered that minimize adverse impacts on environmental justice communities.

Further environmental justice impacts must be considered. For example, the OEA must consider potential impacts of the proposed railroad on communities in Colorado. As Colorado has stated: "The EIS needs to thoroughly analyze and discuss the safety risks associated with routing additional hazardous rail cargo along the environmentally sensitive corridors to which the new project would connect."<sup>209</sup> Colorado further acknowledges that minority and low-income communities may be located along and impacted by the increase in hazardous rail cargo traveling along these corridors as a result of the proposed project.<sup>210</sup> Further, as established above, air pollution that will occur as a result of the continuation of and increases in oil and gas development in the Uinta Basin, will also impact Colorado residents and ecosystems, including the state's minority and low-income communities.

The disproportionate impacts of the proposed rail line on low income and minority communities will reach to Salt Lake City as well. For example, according to Carbon County Commissioner Hopes, who helped spearhead the proposed project, a goal of the Uinta Railroad and certainly a cumulative impact of the plan is to ship more Uinta Basin crude through Carbon County and ultimately to the Salt Lake City Inland Port:

"The other benefit is that it makes a really nice tie-in to the Inland Port. If Carbon County, we've talked about this in the past, is the hub and spokes model that the state's looking at having the main Inland Port in Salt Lake and then hubs, with us being the potential energy hub for the state this would be a great place to, and it would help drive the Inland Port to our

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<sup>208</sup> EPA, May 9, 2019 Letter to STB (2019b), Available at: [https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/A6F80AFDFD10D470852584040056C3E3/\\$File/EI-26510.pdf?OpenElement](https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/A6F80AFDFD10D470852584040056C3E3/$File/EI-26510.pdf?OpenElement).

<sup>209</sup> CDPHE, Re: Colorado Department of Public Health and Environment's Preliminary Comments on the Proposed Uinta Rail Line (2019). Available at: [https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/C17CF5888BC87EC1852584040056F2A7/\\$File/EI-26511.pdf?OpenElement](https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/C17CF5888BC87EC1852584040056F2A7/$File/EI-26511.pdf?OpenElement).

<sup>210</sup> *Id.*

area because the oil coming out of the basin would come here, go through the Inland Port and then out to market,” explained Commissioner Hopes.<sup>211</sup>

Therefore, OEA must consider the possible disproportionate individual and cumulative impacts of the Uinta Rail Line on any low income and minority communities in and around the proposed Salt Lake City Inland Port and Carbon County hub to the Inland Port. Given that Salt Lake County is a serious nonattainment area for the 2006 short-term PM<sub>2.5</sub> NAAQS, the adverse impacts of proposed project may be significant indeed. Shipping crude oil through these areas will increase harms, such as those from criteria and hazardous air pollution, truck and rail traffic, noise, community disruptions, chances for toxic spills, and light pollution, both individually and cumulatively.

In addition, the OEA must address the environmental justice consequences of the proposed project as it impacts low income and minority communities near Gulf Coast or other refineries (*see* “Outgoing Trains” section of these comments). Project proponents maintain that one of the reasons that that railroad, designed with a capacity of 500,000 barrels of crude a day, is practical and indeed will turn the demanded profit,<sup>212</sup> is because it will deliver crude to Gulf Coast refineries.<sup>213</sup> Indeed, after interviewing representatives of five companies operating eleven Gulf Coast refineries, an “experienced oil and gas consultant” concluded that “demand exists today for at least somewhere between 320,000 and 340,000 bpd of Basin oil.”<sup>214</sup> The report further classifies the refineries of Texas, Louisiana and Mississippi as “candidate terminals” and “target refineries” for Uinta crude to be accessed by the proposed project.<sup>215</sup>

Therefore, the OEA environmental justice analysis must consider the consequences of the reasonably foreseeable impact of the proposed project on relevant communities affected by any operational and production consequences of shipping Uinta crude to these “candidate terminals” and “target refineries.” Shipping crude through these, or any other, areas will increase harms, such as those from criteria and hazardous air pollution, truck and rail traffic, noise, community disruptions, chances for toxic spills, and light pollution, both individually and cumulatively.

Importantly, the refining of Uinta waxy crude carries with it unique health impacts previously unaddressed by Gulf Coast decisionmakers. As a result, the refining of Uinta crude will likely add to

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<sup>211</sup> *See* Castle Country Radio 2019.

<sup>212</sup> *See* Drexel SCIC 2019 (binding Drexel to designing and developing a railway with the capacity to carry 500,000 barrels of crude each day); *see also* SCIC 2019c (acknowledging that the Coalition requires that the proposed project generate a revenue stream for the Coalition, noting that a goal of the project is to “[p]rovide a permanent revenue stream to the Coalition. This revenue stream could take the form of a share of profits, a share of gross revenues, a fixed monthly payment, or a one-time annuity. The Coalition seeks in this RFI suggested forms for this revenue stream.”)

<sup>213</sup> *See* RL Banks Associates and Helios Group Inc 2018.pdf at 16.

<sup>214</sup> *Id.*

<sup>215</sup> *Id.* at 56 (noting that “BNSF’s mainline network provides a shorter, more direct route between the candidate terminals and the Gulf Coast region of Texas, Louisiana and Mississippi. The shorter mainline network routing provides BNSF with a somewhat lower operating cost structure to many of the target refineries, which has resulted in lower rates[.]”); *see also id.* at viii.

the existing burdens borne by the neighboring communities by increasing refinery emissions and altering the type of refinery emissions. Such reasonably foreseeable impacts must be thoroughly evaluated.

What is more, once the STB undertakes its environmental review, the agency may become aware of additional environmental justice concerns beyond those listed here. The agency is obligated to address these impacts of the proposed project.

## VIII. Water Resources

The OEA must consider the railway's direct, indirect, and cumulative impacts on water resources.<sup>216</sup> The railway's direct effects on water resources are those resulting from constructing and operating the railway, such as the impacts of soil erosion and slope instability/destabilization on surface water quality. As noted by the U.S. Forest Service, soil erosion and slope instability/destabilization can lead to higher levels of total dissolved solids (TDS) in streams, among other problems.<sup>217</sup> Additionally, we concur with the EPA's comment that the OEA must analyze the railway's impacts on stream flow, groundwater flow, riparian habitat, and the geomorphology of streams and floodplains.<sup>218</sup> And, the OEA must analyze the potential for spills of oil and other products transported on the railway (see "Train Contents" section of these comments), and the impact of such spills on groundwater and surface water resources.

In addition to assessing the impacts to water resources from constructing and operating the railway—the railway's direct effects—the EIS must also include an analysis of the railway's indirect impacts on water quality and quantity from increased upstream production of crude oil, synthetic crude oil from oil shale, refined oil products, sodium bicarbonate, fly ash, and gilsonite, as well as downstream end use of these commodities.<sup>219</sup> As an example, given that the railway could cause up to a 500,000-bopd increase in oil production in the Uinta Basin,<sup>220</sup> and that an average of about 100 barrels of potentially-polluted water are produced for every barrel of oil extracted,<sup>221</sup> the railway could cause up to about 50 million gallons of additional produced water every day in the Basin, all of which will require storage, treatment, transport, and disposal, and all of which could impact

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<sup>216</sup> See 40 C.F.R. § 1508.25(c); *id.* § 1502.16.

<sup>217</sup> U.S. Forest Service Letter to STB, p. 2 (May 10, 2019). Available at: [https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/2C4C4F5D8ACAA176852584040057BEC3/\\$File/EI-26515.pdf?OpenElement](https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/2C4C4F5D8ACAA176852584040057BEC3/$File/EI-26515.pdf?OpenElement).

<sup>218</sup> See EPA 2019b.

<sup>219</sup> See *Birckhead v. Fed. Energy Regulatory Comm'n*, 925 F.3d 510, 519 (D.C. Cir. 2019).

<sup>220</sup> R.L. Banks & Associates, Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network (2018); SCIC, Uinta Basin Rail Line Planning Addendum to Project Description, p. 3 (No Date); Drexel Hamilton Infrastructure Partners, L.P. and Seven County Infrastructure Coalition, Memorandum of Understanding Regarding the Development of the Uinta Basin Railway (2019)..

<sup>221</sup> Allison, E & B. Mandler, Water in the Oil and Gas Industry: An Overview of the Many Roles of Water in Oil and Gas Operations, American GeoSciences Institute, Petroleum and the Environment, Part 2, p. 2-2 (2018). Available at: [https://www.americangeosciences.org/sites/default/files/AGI\\_PE\\_WaterIntro\\_web\\_final.pdf](https://www.americangeosciences.org/sites/default/files/AGI_PE_WaterIntro_web_final.pdf).

groundwater or surface water quality. Moreover, because the production of crude oil, synthetic crude oil from oil shale, refined oil products, and the other commodities requires significant quantities of water, increased production of these commodities resulting from STB's approval of the railway will deplete the Uinta Basin's limited water resources. For instance, hydraulically fracturing one crude oil well uses anywhere from about 1.5 million to about 16 million gallons of water.<sup>222</sup> Oil refineries, such as the Uintah Advantage Refinery proposed in the Uinta Basin,<sup>223</sup> consume significant water from surface and groundwater resources.<sup>224</sup> And, the production of the synthetic crude oil from oil shale that will be transported by the railway, which will be produced at Enefit's South Project oil shale mine and processing facility in the Uinta Basin,<sup>225</sup> will consume up to 11,867 acre-feet of water per year, every year, for more than 30 years.<sup>226</sup>

Furthermore, even if the OEA determines that some amount of the crude oil, synthetic crude oil from oil shale, and other commodities that will be transported on the railway are not caused by the railway—and thus are not indirect effects of the railway—the OEA must still analyze the water quality and quantity impacts of all reasonably foreseeable production of those commodities, plus past and ongoing production, to the extent that the production will incrementally impact water quality and quantity when added to the railway's direct and indirect impacts on water resources.<sup>227</sup>

## **IX. Biological Resources**

The EIS must analyze the impacts of construction and operation of the rail route in and near areas used by wildlife and sensitive plant species. The OEA must also initiate Section 7 consultation under the Endangered Species Act (ESA) with U.S. Fish and Wildlife Service with respect to any federally listed species. Data from the Utah Division of Wildlife Resources' Natural Heritage Program<sup>228</sup> shows that a host of sensitive species (*see* Fig. 2 below) have been documented to occur within a 5-mile buffer of the three potential Uinta Basin Railway routes.<sup>229</sup>

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<sup>222</sup> *Id.* at p. 2-1.

<sup>223</sup> R.L. Banks & Associates, Inc and Helios Group Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network (2018).

<sup>224</sup> Water Consumption in U.S. Petroleum Refineries, Final Report (2016), <https://greet.es.anl.gov/files/refineries-water-2016>.

<sup>225</sup> *See* R.L. Banks & Associates, Inc and Helios Group Inc., Pre-Feasibility Study of a Prospective Railroad Connecting the Uinta Basin to the National Rail Network (2018).

<sup>226</sup> U.S. Bureau of Land Management, Final Environmental Impact Statement for the Enefit American Oil Utility Corridor Project, p. 4-111 (2018) Available at: [https://eplanning.blm.gov/epl-front-office/projects/nepa/37462/145046/178753/2\\_Volume\\_I.pdf](https://eplanning.blm.gov/epl-front-office/projects/nepa/37462/145046/178753/2_Volume_I.pdf).

<sup>227</sup> 40 C.F.R. § 1508.7.

<sup>228</sup> Utah Natural Heritage Program, Species Search Report Online Tool (Data accessed Aug. 22, 2019 by Kara Clauser, Center for Biological Diversity.) Located at <https://dwrapps.utah.gov/HeritageDataRequest/>. Contact Sarah Lindsey (UNHP) at [sarahlindsey@utah.gov](mailto:sarahlindsey@utah.gov) for assistance setting up and account to access the tool.

<sup>229</sup> The Utah Natural Heritage Program tool from which this list originates automatically uses a 0.5 mile and 2.0 mile radius around the project being analyzed. By adding a 3.0 mile radius prior to analysis, we were able to generate a list of species within 5 miles of the proposed routes.

## Species within a 5-mile radius

| Common Name                    | Scientific Name                  | State Protection Status | U.S. ESA Status | Last Observation Year |
|--------------------------------|----------------------------------|-------------------------|-----------------|-----------------------|
| White-tailed Prairie Dog       | Cynomys leucurus                 | SPC                     |                 | 2016                  |
| Bonytail                       | Gila elegans                     | S-ESA                   | LE              | 2014                  |
| Colorado Pikeminnow            | Ptychocheilus lucius             | S-ESA                   | LE              | 2012                  |
| Flannelmouth Sucker            | Catostomus latipinnis            | CS                      |                 | 2012                  |
| Razorback Sucker               | Xyrauchen texanus                | S-ESA                   | LE              | 2012                  |
| Bluehead Sucker                | Catostomus discobolus            | CS                      |                 | 2011                  |
| Roundtail Chub                 | Gila robusta                     | CS                      |                 | 2011                  |
| Greater Sage-grouse            | Centrocercus urophasianus        | SPC                     |                 | 2010                  |
| Ferruginous Hawk               | Buteo regalis                    | SPC                     |                 | 2007                  |
| Long-billed Curlew             | Numenius americanus              | SPC                     |                 | 2007                  |
| Pariette Cactus                | Sclerocactus brevispinus         |                         | LT              | 2007                  |
| Burrowing Owl                  | Athene cunicularia               | SPC                     |                 | 2006                  |
| Colorado River Cutthroat Trout | Oncorhynchus clarkii pleuriticus | CS                      |                 | 2006                  |
| Shrubby Reed-mustard           | Glaucocarpum suffrutescens       |                         | LE              | 2006                  |
| Bald Eagle                     | Haliaeetus leucocephalus         | SPC                     |                 | 2005                  |
| Black-footed Ferret            | Mustela nigripes                 | S-ESA                   | LE; XN          | 2005                  |
| Northern Goshawk               | Accipiter gentilis               | CS                      |                 | 2004                  |
| Mountain Plover                | Charadrius montanus              | SPC                     |                 | 2002                  |
| Western Yellow-billed Cuckoo   | Coccyzus americanus occidentalis | S-ESA                   | LT              | 2002                  |
| Lewis's Woodpecker             | Melanerpes lewis                 | SPC                     |                 | 1999                  |
| Barneby Ridgecress             | Lepidium barnebyanum             |                         | LE              | 1998                  |
| Fringed Myotis                 | Myotis thysanodes                | SPC                     |                 | 1994                  |
| Short-eared Owl                | Asio flammeus                    | SPC                     |                 | 1994                  |
| Ute Ladies' Tresses            | Spiranthes diluvialis            |                         | LT              | 1994                  |
| Spotted Bat                    | Euderma maculatum                | SPC                     |                 | 1993                  |
| Uinta Basin Hookless Cactus    | Sclerocactus wetlandicus         |                         | LT              | 1986                  |
| Townsend's Big-eared Bat       | Corynorhinus townsendii          | SPC                     |                 | 1957                  |
| Kit Fox                        | Vulpes macrotis                  | SPC                     |                 | 1955                  |
| Bobolink                       | Dolichonyx oryzivorus            | SPC                     |                 | 1942                  |
| Western Toad                   | Anaxyrus boreas                  | SPC                     |                 | 1932                  |
| Gray Wolf                      | Canis lupus                      | S-ESA                   | LE              | 1916                  |
| Brown (Grizzly) Bear           | Ursus arctos                     | S-ESA                   | LT              | 1914                  |
| Clay Phacelia                  | Phacelia argillacea              |                         | LE              | 1883                  |

**Figure 2.** Sensitive species occurring within 5.0 miles (an area 3.0 miles on either side of the rail routes was analyzed. An additional 2.0 mile buffer is automatically added to the analysis zone by the online tool for a total of 5.0 miles) of the three proposed Uinta Basin Railway Routes according to data curated by the Utah Natural Heritage Program.

We also agree with the Forest Service's comment that impacts on Forest Service sensitive species should be considered, including: Goodrich Blazingstar (*Mentzelia goodrichii*) and Low Greenthread (*Thelesperma caespitosum*) near the Highway 191 corridor; peregrine falcon, northern goshawk, boreal owl, great gray owl, flammulated owl, three-toed woodpecker, greater sage grouse, spotted bat, Townsend's big-eared bat, common loon, trumpeter swan, pygmy rabbit, bald eagle, bighorn sheep, and wolverine;" and the management indicator species golden eagle, red-naped sapsucker, warbling vireo, Lincoln's sparrow, song sparrow, white-tailed ptarmigan, elk, deer, northern goshawk, and sage grouse.<sup>230</sup> We also agree with the HDR Uinta Basin Railway: Proposed Draft Reconnaissance-Level Biological Resources Field Methodology<sup>231</sup> that impacts to the Jones Cycladenia (*Cycladenia humilis* var. *jonesii*), Canada lynx (*Lynx canadensis*), and Mexican spotted Owl (*Strix occidentalis lucida*) should be considered.

The EIS should also consider potential impacts from construction and operation of the UBR to the Graham's beardtongue (*Penstemon grahamii*),<sup>232</sup> White River beardtongue (*Penstemon scariosus albifluvis*),<sup>233</sup> horseshoe milk-vetch (*Astragalus equisolensis*),<sup>234</sup> Hamilton milk-vetch (*Astragalus hamiltonii*),<sup>235</sup> Barneby catseye (*Cryptantha barnebyi*),<sup>236</sup> Graham catseye (*Cryptantha grahamii*),<sup>237</sup> *Erigeron untermannii*,<sup>238</sup> *Hymenoxys lapidicola*,<sup>239</sup> Goodrich's blazingstar (*Mentzelia*

<sup>230</sup> U.S. Forest Service Letter to STB, p. 2 (May 10, 2019). Available at: [https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/2C4C4F5D8ACAA176852584040057BEC3/\\$File/EI-26515.pdf?OpenElement](https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/2C4C4F5D8ACAA176852584040057BEC3/$File/EI-26515.pdf?OpenElement).

<sup>231</sup> HDR, Uinta Basin Railway: Proposed Draft Reconnaissance-Level Biological Resources Field Methodology (2019). Available at: [https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/65522290BB5901188525840400530F63/\\$File/EI-26494.pdf?OpenElement](https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/65522290BB5901188525840400530F63/$File/EI-26494.pdf?OpenElement)

<sup>232</sup> *Penstemon grahamii* is a BLM sensitive species (See BLM 2011) and a candidate for listing under the ESA (See USFWS, Environmental Conservation Online System, Graham beardtongue (*Penstemon grahamii*)(2019a). Available at: <https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=4267>.) The agency's failure to list this species under the ESA has been very conflictual.

<sup>233</sup> *Penstemon scariosus albifluvis* is a BLM sensitive species (See BLM 2011) and a candidate for listing under the ESA (See USFWS, Environmental Conservation Online System, White River beardtongue (*Penstemon scariosus albifluvis*)(2019b). Available at: <https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=4725>.) The agency's failure to list this species under the ESA has been very conflictual.

<sup>234</sup> *Astragalus equisolensis* is a BLM sensitive species (See BLM 2011) and a former candidate for listing under the ESA (See USFWS, Environmental Conservation Online System, Horseshoe milk-vetch (*Astragalus equisolensis*)(2019a). Available at: <https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=1346>.)

<sup>235</sup> *Astragalus hamiltonii* is a BLM sensitive species (See BLM 2011) and a former candidate for listing under the ESA (See USFWS, Environmental Conservation Online System, Hamilton milk-vetch (*Astragalus hamiltonii*) (2019b). Available at: <https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=8019>.)

<sup>236</sup> *Cryptantha barnebyi* is a BLM sensitive species (See BLM 2011) and a former candidate for listing under the ESA (See USFWS, Environmental Conservation Online System, Barneby catseye (*Cryptantha barnebyi*) (2019c). Available at: <https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=687>.)

<sup>237</sup> *Cryptantha grahamii* is a BLM sensitive species (See BLM 2011) and a former candidate for listing under the ESA (See USFWS, Environmental Conservation Online System, Graham catseye (*Cryptantha grahamii*)(2019d). Available at: <https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=7322>.)

<sup>238</sup> *Erigeron untermannii* is a BLM sensitive species (See BLM 2011) and a former candidate for listing under the ESA (See USFWS, Environmental Conservation Online System, No common name (*Erigeron untermannii*)(2019e). Available at: <https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=8454>.)

*goodrichii*),<sup>240</sup> *Thelesperma caespitosum*,<sup>241</sup> sterile yucca (*Yucca sterilis*),<sup>242</sup> *Boechera duchesnensis*,<sup>243</sup> *Duchesne penstemon* (*Penstemon duchesnensis*),<sup>244</sup> and *Penstemon flowersii*.<sup>245</sup>

#### **a. Baseline Surveys Must Be Conducted**

The STB must thoroughly conduct on-the-ground baseline surveys of the above species and any other sensitive species that may occur within the project analysis area, including on both public and private lands. See *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1084-85 (9th Cir. 2011) (finding EIS failed to take a “hard look” at proposed railway’s impacts on plants and wildlife when it deferred gathering baseline data). The analysis area should include streams or rivers within a half mile of each of the proposed rail routes. The EIS should document the types of surveys performed, when and how they were conducted, and survey results.

#### **b. Impacts from Rail Construction Must Be Analyzed**

Construction of the railroad along any of the proposed routes will adversely impact species in numerous ways. Clearing and grading of land and other construction activities will destroy and fragment habitat, including habitat for ground-nesting pollinators; increase erosion, sedimentation, and runoff in stream habitat; create disturbances from dust, noise, traffic, and light pollution; introduce invasive species, disease, herbicides, and toxic contaminants to surrounding areas; and increase the risk of trampling or collection of rare plants.

We are especially concerned about the following species that appear to occur within or extremely near one or more of the alternative routes:

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<sup>239</sup> *Hymenoxys lapidicola* is a BLM sensitive species (See BLM 2011) and a former candidate for listing under the ESA (See USFWS, Environmental Conservation Online System, No common name (*Hymenoxys lapidicola*)(2019f). Available at: <https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=5586>.)

<sup>240</sup> *Mentzelia goodrichii* is a BLM sensitive species (See BLM 2011) for which the USFWS was once petitioned to list under the ESA (See Forest Guardians, A Petition to List 206 Critically Imperiled or Imperiled Species in the MountainPrairie Region of the United States as Threatened or Endangered Under the Endangered Species Act, 16 U.S.C. §§ 1531 et seq. (2007). Available at: <https://ecos.fws.gov/docs/petitions/65510/436.pdf>.)

<sup>241</sup> *Thelesperma caespitosum* is a BLM sensitive species (See BLM 2011) and a former candidate for listing under the ESA (See USFWS, Environmental Conservation Online System, No common name (*Thelesperma caespitosum*)(2019g). Available at: <https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=4229>.)

<sup>242</sup> *Yucca sterilis* is a BLM sensitive species (See BLM 2011).

<sup>243</sup> *Boechera duchesnensis* is very rare and occurs only on private lands that UBR construction might affect (See UNPS 2016)

<sup>244</sup> *Penstemon duchesnensis* is a rare, endemic species with a restricted range and no protective status (See UNPS 2016). The species occurs only about 5 miles west and east of the town of Duchense and along Highway 40 and would may likely be impacted by the UBR.

<sup>245</sup> *Penstemon flowersii* is a rare, endemic species with a restricted range and no protective status (See UNPS 2016). The species has a very restricted range and numerous populations have been lost in recent years. Populations near Myton/Randlett would likely be impacted by all three potential UBR routes. The species was a former candidate for listing under the ESA (See USFWS, Environmental Conservation Online System, No common name (*Penstemon flowersii*)(2019h). Available at: <https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=5380>).

## i. Greater Sage-Grouse

All three routes cross greater sage-grouse (*Centrocercus urophasianus*) habitat, including priority habitat management areas (PHMA), general habitat management habitat areas (GHMA), and lek sites.<sup>246</sup> Specifically:

- The Indian Canyon route crosses GHMA, and within 1 mile of habitat on Anthro Mountain. Areas with the Anthro Mountain habitat designation, “while not specifically designated as PHMA,... include the similar management allocations and actions as those applicable to PHMA.”<sup>247</sup> Anthro Mountain supports breeding, nesting, and chick-rearing sites, and birds have been translocated to this site to rehabilitate isolated, declining local populations.<sup>248</sup>
- The Wells Draw route is less than a mile of Anthro Mountain designated habitat. Seven leks are within five miles of this part of the route (Wire Fence, Nutters Ridge, Cracker Grove, Jeep Trail, Alkali North, Alkali, and Drill Holl). On the route’s western end, it crosses PHMA in the Carbon Sage Grouse Management Area (SGMA). including directly over lek sites in Emma Park (Cabin Spring and Matt’s Summit). Two other Carbon SGMA leks are within the 2,000 foot right-of-way analysis area (Moynier Meadows, Horse Creek), and another is roughly within 1 mile from the railway corridor (Whitmore Park). Further, about 3.25 miles west of the western end of the Wells Draw route lies another lek (Houston), also part of the Carbon SGMA. The state of Utah has recognized this SGMA as “highly important, because it helps sustain greater sage-grouse populations,” and provides mating, breeding, rearing, and wintering grounds.<sup>249</sup> The Wells Draw route also crosses through or extremely near GHMA around West Tavaputs Plateau and south of the Bad Cliffs.
- The Craig route crosses GHMA and PHMA, and also roughly within 1 and 3 miles of a couple leks (Observatory and Halfway Hollow, respectively).

Greater sage-grouse are extremely sensitive to human development, including power lines or other tall structures, roads, wells, fences, and noise.<sup>250</sup> A study of sage-grouse in Utah recommends conservation buffers prohibiting development within 5 to 8 km (roughly 3 to 5 miles) of all seasonal

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<sup>246</sup> See Center For Biological Diversity, Sage-Grouse Habitat Map (2019).

<sup>247</sup> U.S. Forest Service, Greater Sage-Grouse Implementation Guide: Minerals, Version 1.4, at 4 available at [http://www.fs.fed.us/sites/default/files/media\\_wysiwyg/minerals\\_guide\\_1\\_4\\_docx.pdf](http://www.fs.fed.us/sites/default/files/media_wysiwyg/minerals_guide_1_4_docx.pdf).

<sup>248</sup> State of Utah, Utah Conservation Plan For Greater Sage-Grouse (January 2019) at 16-17, available at [https://wildlife.utah.gov/sage-grouse/Utah\\_Greater\\_Sage-grouse\\_Plan.pdf](https://wildlife.utah.gov/sage-grouse/Utah_Greater_Sage-grouse_Plan.pdf).

<sup>249</sup> Clark, Kathleen, Public Lands Policy Coordinating Office, May 9, 2019 Letter to Joshua Wayland, Subject: Seven County Infrastructure Coalition—Construction & Operation Exemption—in Utah, Carbon, Duchesne, and Uintah Counties, Utah (2019). Available at: [https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/94865A232AA97127852584040055F37F/\\$File/EI-26506.pdf?OpenElement](https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/94865A232AA97127852584040055F37F/$File/EI-26506.pdf?OpenElement)

<sup>250</sup> Hanser, S.E., et al., Greater sage-grouse science (2015–17)—Synthesis and potential management implications: U.S. Geological Survey Open-File Report 2018–1017, 46 p., (2018). Available at: <https://doi.org/10.3133/ofr20181017>

habitats, depending on the amount of habitat used by the population.<sup>251</sup> The study also recognizes the need to expand suitable habitat for sage-grouse, and reduce fragmentation, to minimize the distance they must migrate through unsuitable habitats to wintering areas.<sup>252</sup> In Utah, females and their broods from smaller, isolated populations surrounded by generally unsuitable and fragmented landscape (including the Anthro Mountain population) traveled farther between seasonal habitats than did sage-grouse from larger populations with access to larger, contiguous sagebrush landscapes.<sup>253</sup> Development of a railway through sage-grouse habitat runs directly contrary to these management needs. The EIS should detail how disturbances from train construction and operations will impact breeding, chick rearing, foraging, and availability of suitable habitat. It should also address whether the proposed development is consistent with habitat and population recovery and management goals under the Sage-Grouse RMP/LRMP Amendments and Utah's state plan.

## **ii. Big Game**

According to data provided by the Utah Department of Natural Resources, the Indian Canyon rail route runs alongside a "priority" migratory corridor for elk and mule deer, while the Wells Draw route crosses this corridor on its western end.<sup>254</sup> All three routes cross big game winter habitat and crucial big game habitat along significant portions of their lines in Utah (and likely along the Colorado portion of the Craig route). The EIS must quantify the potential loss and fragmentation of migratory, winter, and crucial big game habitat, and evaluate the resulting impacts on big game populations.

Construction of the railway and resulting increased oil and gas development in the Uinta Basin could have significant impacts on big game populations. It is well-documented that human development causes direct habitat loss and fragmentation through the construction of infrastructure, and indirect habitat loss through deer avoidance of infrastructure and related activities; these consequences likely reduce the carrying capacity of the landscape.<sup>255</sup>

For example, an ongoing mule deer study by members of the Wyoming Migration Initiative has found that mule deer migration patterns are altered by human development – herds will move faster, stop less to feed, and detour around developed portions of their route.<sup>256</sup> A more recent study that builds upon this previous research makes similar findings. In an area where road and well-pad density more than tripled from 0.56 km/km<sup>2</sup> (0.77 wells/km<sup>2</sup>) in 2005 and 2006 to around 1.92 km/km<sup>2</sup> (2.82 wells/km<sup>2</sup>) in 2009 and 2010, these land-use changes "increased movement rates,

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<sup>251</sup> Dahlgren, David K., Seasonal Movements of Greater Sage-grouse Populations in Utah: Implications for Species Conservation, Wildlife Society Bulletin; DOI: 10.1002/wsb.643, at 10 (2016).

<sup>252</sup> *Id.* at 9.

<sup>253</sup> *Id.* at 8.

<sup>254</sup> Center for Biological Diversity, Map of Big Game Habitat Around Uinta Basin Railway Alternative Routes (2019c) (data provided by UDNR).

<sup>255</sup> Johnson, H.E., et al., Increases in residential and energy development are associated with reductions in recruitment for a large ungulate. *Global Change Biology*, doi: 10.1111/gcb.13385 (2016).

<sup>256</sup> Sawyer, H., et al., A framework for understanding semi-permeable barrier effects on migratory ungulates. *Journal of Applied Ecology* 2013:50, doi:10.1111/1365-2664.12013 (2013).

altered stopover use, and in a few cases, resulted in a loss of fidelity.”<sup>257</sup> Overall, mule deer had strong fidelity to migration routes, but “[g]iven this high fidelity, the increased movement rates and selection of undisturbed habitat...likely comes at a cost of lost foraging opportunities.”<sup>258</sup> This increased physiological stress and reduced access to highest-quality forage, particularly during harsh winters, will foreseeably affect deer survival, reproduction, and ultimately abundance. Additionally, mule deer may suffer higher mortality rates in developed landscapes because of increased vehicle collisions and accidents (i.e., entrapment in fences); moreover, increased road densities expose mule deer to more hunters, poachers and predatory domestic pets.<sup>259</sup>

The EIS must also analyze the indirect impacts of increased oil and gas development in big game habitat resulting from the construction and operation of the railway. Empirical data clearly shows mule deer avoid roads and oil and gas infrastructure by an average of 913 meters: “Mule deer consistently avoided energy infrastructure through the 15-year period of development and used habitats that were an average of 913 m further from well pads compared with predevelopment patterns of habitat use.”<sup>260</sup> Another recent study shows “[e]nergy development drove considerable alterations to deer habitat selection patterns, with the most substantial impacts manifested as avoidance of well pads with active drilling to a distance of at least 800 m.”<sup>261</sup>

The consequences of this indirect habitat loss on migration, energy budgets, adult and fawn survival, and population are not yet fully understood.<sup>262</sup> Increasing research, however, shows indirect loss of habitat is linked to overall population declines. A study of the Sublette mule deer herd in Wyoming compared mule deer density in control and development zones, and found mule deer densities declined 30% in the development area, as opposed to 10% in the control area.<sup>263</sup> Another study in western Colorado found energy development has the second-largest effect on deer recruitment, exceeded only by residential development.<sup>264</sup>

### iii. Barneby Ridgecress

The endangered Barneby ridgecress (*Lepidium barnebyanum*) is a highly restricted endemic species that occurs just south of the small city of Duchesne in Duchesne County, and mainly just east

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<sup>257</sup> Wyckoff, Teal B., et al., Evaluating the influence of energy and residential development on the migratory behavior of mule deer, *Ecosphere* 9(2):e02113. 10.1002/ecs2.2113 (2018).

<sup>258</sup> *Id.* at 10.

<sup>259</sup> Johnson et al. 2016.

<sup>260</sup> Sawyer, Hall et al., Mule Deer and Energy Development—Long-term trends of habituation and abundance, *Global Change Biology* 2017:1-9 (2017). Available at: <http://onlinelibrary.wiley.com/doi/10.1111/gcb.13711/epdf>

<sup>261</sup> Northrup, J. M. et al. Quantifying spatial habitat loss from hydrocarbon development through assessing habitat selection patterns of mule deer, *Global Change Biology* (2015). Available at: <http://onlinelibrary.wiley.com/doi/10.1111/gcb.13037/epdf>.

<sup>262</sup> Hebblewhite, Mark., Effects of Energy Development on Ungulates. *Energy Development and Wildlife Conservation in Western North America* 71-94. Island Press, Washington D.C (2011); Sawyer et al. 2013; Lendrum, P.E. et al.. Habitat selection by mule deer during migration: effects of landscape structure and natural-gas development. *Ecosphere* 3(9):82 (2012).

<sup>263</sup> *Id.*

<sup>264</sup> Johnson et al. 2016.

of Indian Canyon.<sup>265</sup> Its single population consists of approximately 5,000 individuals on nearly 500 acres, and all known stands exist on the Ouray Reservation of the Ute Indian Tribe.<sup>266</sup> The Utah Native Plant Society's most recent review of the plant designated it the highest conservation priority rating, "extremely high," making it one of only 38 vascular plant species out of roughly 2,900 native plants in the state with this rating.<sup>267</sup> Its "intrinsic rarity" could be high as a result of unusual life history, dependence on rare or specialized pollinators, poor dispersal, low fecundity, and/or poor seedling survival, and its "recruitment is probably low (according to Duane Atwood)."<sup>268</sup> It is an edaphic endemic of white shale outcrops of the Uinta Formation, and known only from Indian Canyon area at the south end of the Uinta Basin."<sup>269</sup> This species is particularly vulnerable to fragmentation.

Known occurrences of this species are within the Indian Canyon route's 2,000 feet ROW analysis area, the 0.5-mile spill corridor, and the 1-mile blast zone, making it vulnerable to dust pollution, habitat fragmentation, pollinator disturbance, changes in hydrology, contamination from toxic chemicals, and catastrophic accidents.<sup>270</sup>

#### iv. Argyle Canyon Phacelia

Argyle Canyon phacelia (*Phacelia argylensis*) has been collected near the Wells Draw route,<sup>271</sup> and is limited to sandy soil and shales derived from the Green River formation in Argyle Canyon area of West Tavaputs Plateau, "a hotbed of local endemism."<sup>272</sup> The Utah Native Plant Society's Rare Plant List has designated it a "high priority species,"<sup>273</sup> and it is a BLM sensitive species.<sup>274</sup> There are only five collection records for this species—some plants have been found in washes, suggesting they may be vulnerable to fragmentation from the railway.<sup>275</sup> Regardless of

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<sup>265</sup> CBD, Map of Barneby Ridgecross Occurrences and Plant Collections (2019b); U.S. Fish and Wildlife Service, *Lepidium barnebyanum* (Barneby ridge-cross) 5-Year Review: Summary and Evaluation (2011) at 8. Available at: [https://ecos.fws.gov/docs/five\\_year\\_review/doc3779.pdf](https://ecos.fws.gov/docs/five_year_review/doc3779.pdf).

<sup>266</sup> USDA, Natural Resources Conservation Service, Threatened Endangered & Candidate Plant Species of Utah Technical Note (2013), at 26. Available at: [https://www.fs.fed.us/wildflowers/Rare\\_Plants/documents/UT\\_TEP\\_plants\\_NRCS\\_2013Revision.pdf](https://www.fs.fed.us/wildflowers/Rare_Plants/documents/UT_TEP_plants_NRCS_2013Revision.pdf).

<sup>267</sup> The Utah Native Plant Society's Rare Plant List: Version 2, Calochortiana: Research Journal of the Utah Native Plant Society, No.3, at 19 (2016) ("UNPS Rare Plant List"). Available at: <https://www.unps.org/Calochortiana/CalochortianaMay2016Num3.pdf>.

<sup>268</sup> *Id.* at 14, 21.

<sup>269</sup> *Id.* at 21.

<sup>270</sup> CBD, Map of Barneby Ridgecross Occurrences and Plant Collections (2019b)

<sup>271</sup> *Id.*

<sup>272</sup> The Utah Native Plant Society's Rare Plant List: Version 2, Calochortiana: Research Journal of the Utah Native Plant Society, No.3, at 19 (2016) ("UNPS Rare Plant List") at 45. Available at: <https://www.unps.org/Calochortiana/CalochortianaMay2016Num3.pdf>

<sup>273</sup> *Id.* at 30.

<sup>274</sup> BLM, Sensitive Plant Species List for Utah (2011). Available at: <https://www.blm.gov/sites/blm.gov/files/uploads/644-IM%20No.%20UT%202011-037%20-%20Attach%201%20-%20Sensitive%20Plant%20Species%20List.doc>.

<sup>275</sup> Intermountain Region Herbarium Network, Occurrence Records for *Phacelia argylensis* (No Date). Available at: <http://www.intermountainbiota.org/portal/collections/list.php?db=all&taxa=Phacelia+argylensis&usethes=1&taxontype=2>

whether these plants prefer washes or steep slopes, these plants would be vulnerable to dust pollution and pollinator disturbance from the railway's construction, which is liable to discourage pollen transfer.

### **c. Impacts from Increased Rail Traffic Must Be Studied**

The EIS must analyze a number of potential impacts on wildlife and habitat from railway traffic and operations. Scientific studies have documented that train activity negatively affects wildlife through (1) mortality from collisions with trains, (2) disturbance from noise and artificial light causing stress and behavioral changes, (3) impeding natural movements, thereby restricting the animal's range, making habitat less accessible, and potentially leading to population fragmentation and isolation, and (4) pollution of the physical, chemical, and biological environment, for example through the emissions of contaminants like heavy metals, which can degrade habitat suitability in a much wider zone than the width of the railroad itself.<sup>276</sup> Each of these impacts would be worsened by the significantly increased rail traffic resulting from the Project, and the EIS must analyze the full range of impacts and mitigation measures for these impacts.

#### **1. Mortality from train collisions**

Mortality resulting from animal-train collisions has been documented for a wide range of species, including moose,<sup>277</sup> grizzly bears,<sup>278</sup> black bears,<sup>279</sup> wolverines,<sup>280</sup> wolves,<sup>281</sup> deer,<sup>282</sup>

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<sup>276</sup> Jackson, S.D., Overview of transportation related wildlife problems. University of Massachusetts (2000).

<sup>277</sup> Andreassen, H.P. et al., The effect of scent-marking, forest clearing and supplemental feeding on moose-train collisions. *Journal of Wildlife Management* 69: 1125-1132 (2005); Gundersen, H., and H.P. Andreassen, The risk of moose *Alces alces* collision: A predictive logistic model for moose-train accidents. *Wildlife Biology* 4(2):103-110 (1998); Gundersen, H. et al., Spatial and temporal correlates to Norwegian moose-train collisions. *Alces* 34: 385-394 (1998).

<sup>278</sup> Pace, R.M. et al., Sources and patterns of black bear mortality in Louisiana. *Proceedings of the 54th Annual Conference of the Southeastern Association of Fish and Wildlife Agencies*:365-373; 28 (2000); Waller, J.S. and C. Servheen, Effects of transportation infrastructure on grizzly bears in northwestern Montana. *Journal of Wildlife Management* 69: 985-1000 (2005); Pissot, J., Trains, grains, and grizzly bears: reducing wildlife mortality on railway tracks in Banff National Park. *Road Ecology Center* (2007). Available at: <http://escholarship.org/uc/item/8sf4b0jr>; USFWS. 2013. NCDE Grizzly Bear Conservation Strategy (2013).

Available at: [https://www.fws.gov/mountain-prairie/science/PeerReviewDocs/NCDE\\_Grizzly.pdf](https://www.fws.gov/mountain-prairie/science/PeerReviewDocs/NCDE_Grizzly.pdf)

<sup>279</sup> Pace, R.M. et al., Sources and patterns of black bear mortality in Louisiana. *Proceedings of the 54th Annual Conference of the Southeastern Association of Fish and Wildlife Agencies*:365-373; 28 (2000); Van Why, K.R. and M.J. Chamberlain, Mortality of black bears, *Ursus americanus*, associated with elevated train trestles. *Canadian Field-Naturalist* 2003:113-115 (2003).

<sup>280</sup> Krebs, J. et al., Synthesis of survival rates and causes of mortality in North American wolverines. *Journal of Wildlife Management* 68: 493-502 (2004).

<sup>281</sup> Morner, T. et al., Diseases and mortality in free-ranging brown bear (*Ursus arctos*), gray wolf (*Canis lupus*), and wolverine (*Gulo gulo*) in Sweden. *Journal of Wildlife Diseases* 41: 298-303 (2005).

<sup>282</sup> Associated Press, Trains kill more than 800 antelope and deer on Montana tracks this winter (2011). Available at: [https://missoulain.com/news/state-and-regional/trains-kill-more-than-antelope-and-deer-on-montana-tracks/article\\_3d955d6a-4831-11e0-84f6-001cc4c03286.html](https://missoulain.com/news/state-and-regional/trains-kill-more-than-antelope-and-deer-on-montana-tracks/article_3d955d6a-4831-11e0-84f6-001cc4c03286.html); Kušta, T. et al., Mortality of large mammals on railway tracks. *Scientia Agriculturae Bohemica* 42 (2011); Kušta, T. et al., Deer on the railway line: spatiotemporal trends in mortality patterns of roe deer. *Turkish Journal of Zoology* 38:479-485 (2014).

pronghorn,<sup>283</sup> tortoises,<sup>284</sup> amphibians,<sup>285</sup> and birds.<sup>286</sup> The frequency of train trips was determined to be the most significant factor in the number of deer-train collisions across study sites.<sup>287</sup> Railroad fatalities can have detrimental impacts on animal populations. For example, train-moose fatalities in the lower Susitna Valley, Alaska, were a primary contributor to population reductions.<sup>288</sup>

Illustrating the impacts of train collisions to special-status species, the BNSF railway in northwestern Montana has long been responsible for killing threatened grizzly bears from the Northern Continental Divide Ecosystem (NCDE) population. According to recent data, 50 grizzly bears from the NCDE population were documented as killed by train collisions between 1984 and 2013.<sup>289</sup> In 2014 at least two grizzly bears from this threatened population were killed by train collisions.<sup>290</sup> Although BNSF has taken some steps to clean up grain spills attracting bears, grizzly bears continue to be killed along this section of railroad, which has been attributed in large part to the high volume of rail traffic on this line.<sup>291</sup> As a result, the average number of grizzly bear deaths from train collisions has not declined over time.<sup>292</sup>

## 2. Noise pollution

Noise from rail activity has been found to cause adverse impacts to species. Chronic noise pollution from road, rail, and other anthropogenic activity is an issue of increasing concern.<sup>293</sup> Birds are particularly vulnerable to noise because it can mask their vocal communication, with consequent effects on their health and survival. Schroeder et al (2012)<sup>294</sup> documented reduced reproductive fitness in birds exposed to chronic noise from generators. Another study documented increased survival of bald eagle nests when they were located farther away from railways.

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<sup>283</sup> Associated Press, Trains kill more than 800 antelope and deer on Montana tracks this winter (2011). Available at: [https://missoulian.com/news/state-and-regional/trains-kill-more-than-antelope-and-deer-on-montana-tracks/article\\_3d955d6a-4831-11e0-84f6-001cc4c03286.html](https://missoulian.com/news/state-and-regional/trains-kill-more-than-antelope-and-deer-on-montana-tracks/article_3d955d6a-4831-11e0-84f6-001cc4c03286.html)

<sup>284</sup> Iosif, R., Railroad-associated mortality hot spots for a population of Romanian Hermann's tortoise (*Testudo hermanni boettgeri*): a gravity model for railroad-segment analysis. *Procedia Environmental Sciences* 14:123-131 (2012).

<sup>285</sup> Budzik, K.A. and K.M. Budzik, A preliminary report of amphibian mortality patterns on railways. *Acta Herpetologica* 9: 103-107 (2014).

<sup>286</sup> Spencer, K.G., Avian casualties on railways. *Bird Study* 12: 257 (1965).

<sup>287</sup> Kušta, T. et al., Deer on the railway line: spatiotemporal trends in mortality patterns of roe deer. *Turkish Journal of Zoology* 38:479-485 (2014).

<sup>288</sup> Modafferi, R.D., Train moose-kill in Alaska: characteristics and relationship with snowpack depth and moose distribution in lower Susitna Valley. *Alces* 27: 193-207 (1991).

<sup>289</sup> USFWS, Data on documented grizzly bear deaths per year in the NCDE population as a result of bear-train collisions during 1984-2013. Grizzly Bear Recovery Coordinator (2014).

<sup>290</sup> Daily Inter Lake, Train kills grizzly bear; transplanted female grizzly bear may have been killed by train (2014).

<sup>291</sup> Waller, J.S. and C. Servheen, Effects of transportation infrastructure on grizzly bears in northwestern Montana. *Journal of Wildlife Management* 69: 985-1000 (2005).

<sup>292</sup> USFWS, Data on documented grizzly bear deaths per year in the NCDE population as a result of bear-train collisions during 1984-2013. Grizzly Bear Recovery Coordinator (2014).

<sup>293</sup> Morley, E.L. et al. The importance of invertebrates when considering the impacts of anthropogenic noise. *Proceedings of the Royal Society of Biological Sciences* 281: 20132683 (2013).

<sup>294</sup> Schroeder, J. et al., Passerine birds breeding under chronic noise experience reduced fitness. *PLoS ONE* 7(7):e39200 (2012).

Intermittent noise, the expected pattern along a rail line, may also cause stronger effects and decrease the ability of birds to habituate to noise.<sup>295</sup> While some birds may utilize vocal adjustments in response to chronic noise pollution, those adjustments are likely to have direct and indirect fitness costs.<sup>296</sup>

Noise impacts could be greater along those routes passing through canyons. In mountainous areas, the effect of noise is greater within valleys, when their width is less than the height of their walls, reducing the attenuating effect of noise.<sup>297</sup>

### 3. Barriers to movement

Railways can act as barriers to movement that can result in population fragmentation and isolation. Increased train traffic can increase the impact of the barrier. For example, studies indicate that railways act as a barrier to movement for the federally threatened grizzly bear population in the Northern Continental Divide Ecosystem (NCDE) in northwest Montana.<sup>298</sup> Kendall et al. (2009)<sup>299</sup> found evidence for population fragmentation across the western side of the BNSF rail line and Hwy. 2 corridor between Glacier National Park and National Forest lands. Population differentiation across the corridor indicated that reduced genetic interchange was occurring. Waller and Servheen (2005)<sup>300</sup> similarly found that train traffic posed a significant movement challenge for bears. Furthermore, their research indicated that the high rail traffic volume was particularly problematic for bear mortalities:

While grizzly bears appeared to make behavioral adjustments to temporal patterns of highway traffic volume, they were faced with a different situation along the railroad. During hours of low highway traffic, when grizzly bears were choosing to cross US-2, railroad traffic was high. Trains were more frequent, longer, and faster at night than during daylight hours. Furthermore, rail traffic was greater during fall when bears were in hyperphagia. This situation arose for a number of reasons. First, most track maintenance work was accomplished during daylight hours; thus, freight traffic was often curtailed during the day to allow track work to proceed. Second, arrival times for freight trains depended partially on their departure time. Freight trains loaded on the Pacific coast (approx 800 km to the west) during the day left in the evening and arrived in our study area at night the next day, 24–36 hr later. The result was that grizzly bears had to contend with high railroad traffic when highway traffic

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<sup>295</sup> Blickley, J.L. et al., Experimental evidence for the effects of chronic anthropogenic noise on abundance of greater sage-grouse at leks. *Conservation Biology* 26:461-471 (2012).

<sup>296</sup> Read, J. et al., Fitness costs as well as benefits are important when considering responses to anthropogenic noise. *Behavioral Ecology* 25:4-7 (2014).

<sup>297</sup> Chiocchia, G., Clerico, M., Salizzoni, P., & Marro, M. (2010). Impact assessment of a railway noise in an alpine valley. In *10ème Congrès Français d'Acoustique*.

<sup>298</sup> Waller, J.S. and C. Servheen, Effects of transportation infrastructure on grizzly bears in northwestern Montana. *Journal of Wildlife Management* 69: 985-1000 (2005); Kendall, K.C. et al., Demography and genetic structure of a recovering grizzly bear population. *Journal of Wildlife Management* 73: 3-17 (2009).

<sup>299</sup> *Id.*

<sup>300</sup> Waller, J.S. and C. Servheen, Effects of transportation infrastructure on grizzly bears in northwestern Montana. *Journal of Wildlife Management* 69: 985-1000 (2005)

was lowest. We observed greater grizzly bear mortality caused by trains than that caused by cars on the highway.<sup>301</sup>

Railroads have also been shown to inhibit movement of bumblebees (Bhattacharya et al. 2003) and pronghorn.<sup>302</sup> Fenced railroads in Arizona posed movement barriers that isolated pronghorn into different populations and shaped home ranges, resulting in population fragmentation.<sup>303</sup>

#### d. Impacts from Maintaining Right-of-Way Must Be Studied

Increased herbicide use to maintain the railway right-of-way will harm sensitive plant species within or around the project area. The vitality of these plants is linked to the health of their pollinators. Several examples of plants within the vicinity of the project area that depend on pollinators are listed below:

| Species                                                             | Pollinators                                                                                                                                                                        |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Shrubby reed-mustard<br>( <i>Schoenocrambe<br/>suffrutescens</i> )  | Bee species <i>Dialictus perdificilis</i> , <i>D. sedi</i> , <i>Evylaeus<br/>pulveris</i> , <i>Andrena walleyi</i> , <i>A. prunorum</i> , <i>Halicus rubicundus</i> <sup>304</sup> |
| Pariette cactus<br>( <i>Sclerocactus brevispinus</i> )              | Species from the bee family Halictinae <sup>305</sup>                                                                                                                              |
| Uintah Basin hookless<br>cactus ( <i>Sclerocactus wetlandicus</i> ) | Species from the bee families Andrenidae, Apidae,<br>Halictidae, Megachilidae <sup>306</sup>                                                                                       |

**Table 2.** Pollinator-dependent sensitive plant species in the vicinity of the project area.

Researchers have detected a wide variety of pesticides on Colorado native bees (thiamethoxam, bifenthrin, clothianidin, chlorpyrifos, imidacloprid, fipronil desulfinyl, azoxystrobin, pyraclostrobin, fluxapyroxad, propiconazole, atrazine, metolachlor).<sup>307</sup> These pesticides may cause mortality, impair foraging abilities, increase susceptibility to disease, cause imbalances in the sex-ratio of offspring, slow colony growth and numerous other disturbances.<sup>308</sup> Accordingly, herbicide

<sup>301</sup> *Id* at 997.

<sup>302</sup> Ockenfels, R.A. et al., Home ranges and movements of pronghorn in northern Arizona. Proceedings of the Third Biennial Conference of Research on the Colorado Plateau 3: 45-61 (1997).

<sup>303</sup> *Id*.

<sup>304</sup> USFWS, *Schoenocrambe suffrutescens* (Shrubby Reed-mustard) 5-Year Review: Summary and Evaluation. West Valley City, Utah (2010). Available at: [https://ecos.fws.gov/docs/five\\_year\\_review/doc3578.pdf](https://ecos.fws.gov/docs/five_year_review/doc3578.pdf)

<sup>305</sup> Tepedino, V. J., T. L. Griswold, and W. R. Bowlin, Reproductive Biology, Hybridization, and Flower Visitors of Rare *Sclerocactus* Taxa in Utah's Uintah Basin. Western North American Naturalist 70(3): 377-386 (2010). Summary available at: <https://www.ars.usda.gov/research/publications/publication/?seqNo115=237615>

<sup>306</sup> *Id*.

<sup>307</sup> Hladik M. L., M. Vandever, K. L. Smalling. 2016. Exposure of native bees foraging in an agricultural landscape current-use pesticides. Science of the Total Environment 542: 469-477. Available at: <https://ca.water.usgs.gov/pubs/2015/Hladik112015.pdf>

<sup>308</sup> *Id*.

use within the project area may harm pollinators and reduce pollination of plants that depend on native bees for pollination.

**e. Cumulative Impacts from Increased Oil and Gas Development Must Be Analyzed In Connection with the Impacts of the Railway's Construction and Operation**

As explained above, the purpose of the project is to promote increased oil and gas extraction in the Uinta Basin region. Increased extraction and new oil and gas development will lead to increased surface disturbance from new roads and pipelines, and greater runoff, sedimentation, traffic, toxic spills, noise, and dust. The EIS must analyze the cumulative impacts of the railway's construction and operation in connection with this increase in oil and gas development on sensitive plants and wildlife.

For example, the entire area containing the endangered Barneby ridgecress has been leased for oil and gas development and is within an oil field.<sup>309</sup> To the extent development of the railway could increase oil and gas extraction in this area, the plant could be threatened with development of these leases. Further, as discussed above, the project would facilitate oil shale development in the region, which is likely to include areas occupied by the Graham's beardtongue (*Penstemon grahamii*) and White River beardtongue (*Penstemon scariosus albifluvis*) in Duchesne and Uintah counties.<sup>310</sup> These species are vulnerable to oil and gas development, especially given their small population sizes.<sup>311</sup>

Increased ozone formation from train operation emissions and increased oil and gas production could also harm sensitive plant species. Ozone is generally known to damage plant tissue, including that of desert plants, and some species are particularly sensitive to ozone exposure. Oil and gas extraction in the Uintah Basin has resulted in winter ozone that greatly exceeded acceptable levels defined by the Clean Air Act.<sup>312</sup> Plants in the Uintah Basin may potentially be affected by this ozone.

**f. Oil Spill and Spill Response Impacts on Wildlife**

The EIS must also analyze the potential impacts to wildlife due to oil spills and potential responses to spills. Spills and the associated responses to those events including but not limited to the

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<sup>309</sup> Thompson, C. R., D. M. Olszyk, G. Kats, A. Bytnerowicz, P. J. Dawson, and J. W. Wolf, Effects of Ozone or Sulfur Dioxide on Annual Plants of the Mojave Desert, Journal of the Air Pollution Control Association 34(10): 1017-1022 (1984). Available at:

<https://www.tandfonline.com/doi/pdf/10.1080/00022470.1984.10465849?needAccess=true>; USDA, Effects of Ozone Air Pollution on Plants (2012). Available at: <http://www.ars.usda.gov/Main/docs.htm?docid=12462>.

<sup>310</sup> U.S. Fish & Wildlife Service, Graham's and White River Beardtongues (2018). Available at:

<https://www.fws.gov/mountain-prairie/es/grahamsAndWhiteRiverBeardTongue.php>.

<sup>311</sup> *Id.*

<sup>312</sup> Oltmans, S., R. Schnell, B. Johnson, G. P. Pétron, T. Mefford, and R. Neely III, Anatomy of wintertime ozone associated with oil and natural gas extraction activity in Wyoming and Utah. Elementa: Science of the Anthropocene 2(1): 000024 (2014). Available at: <https://www.elementascience.org/articles/10.12952/journal.elementa.000024/>

use of dispersants, surfactants, biological additives and bioremediation, the deflection of spilled oil, in situ burning, dredging, field testing, and field training may have effects on wildlife.<sup>313</sup>

## **X. Geology and Soils**

The EIS must analyze the impacts of developing the railway on soil and geological resources. Development of the railway will require grading, vegetation clearing, and construction of hard or level surfaces for the railway ballast platform, the railway embankment, access roads for construction and right-of-way maintenance, and several tunnels. Especially in areas dominated by sediments, such as along rivers, significant amounts of fill will be required to stabilize the railway. These activities could result in erosion, subsidence, and soil compaction, leading to loss of healthy soil and/or areas of soil and rock instability, and impact natural hydrology.

Development on rugged and sloped terrain will also result in erosion and potential geological hazards, such as landslides or landslips caused by flash floods or heavy rains. The three railway routes — especially the Indian Canyon and Wells Draw routes — cross sloped terrain in many areas. Landslides or landslips could cause safety hazards along the railway if they block the railway. Blasting for tunnels could also result in geological hazards, including landslides and rockfalls. The EIS must also analyze risks due to seismic activity along the UBR.

The EIS should also analyze the effect of train operations, including the conveyance of heavy train loads and train vibration, on soil, geology, and geological hazards.

The EIS must also analyze the potential for contaminant releases and soil pollution from construction and train operations. These contaminants could include heavy metals, polycyclic aromatic hydrocarbons, hydrocarbons, and herbicides, as well as accidental releases from train loads.

## **XI. Lands with Special Designations**

The EIS must analyze the impacts of the railway on lands with special designations that are within the path of the railway. This includes national forest lands with Inventoried Roadless Areas (IRAs), Wilderness Study Areas (WSAs), and Areas of Critical Environmental Concern (ACECs).

According to our analysis<sup>314</sup> and consistent with comments from the USFS,<sup>315</sup> the Indian Canyon route crosses an IRA (0401011) for a distance of several miles in the Ashley National Forest. Along this part of the Indian Canyon Route, the route partially runs parallel to Highway 191,

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<sup>313</sup> CBD, Re: 60-Day Notice of Intent to Sue: Violations of the Endangered Species Act Related to the New York and New Jersey Area Contingency Plan (2014). Available at: [https://www.biologicaldiversity.org/programs/public\\_lands/energy/dirty\\_energy\\_development/oil\\_and\\_gas/pdfs/NY\\_NJ%20ACP\\_NOI.pdf](https://www.biologicaldiversity.org/programs/public_lands/energy/dirty_energy_development/oil_and_gas/pdfs/NY_NJ%20ACP_NOI.pdf)

<sup>314</sup> CBD, Map of Railway and Specially Designated Federal Lands (2019d).

<sup>315</sup> Groves, Kristy, Ashley National Forest, U.S. Forest Service, Response of Resource Concerns for Uinta Basin Railway (2019). Available at: [https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/2C4C4F5D8ACAA176852584040057BEC3/\\$File/EI-26515.pdf?OpenElement](https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/2C4C4F5D8ACAA176852584040057BEC3/$File/EI-26515.pdf?OpenElement)

but also significantly deviates from the highway's path. Roadless areas provide important opportunities for recreation and wilderness preservation, wildlife habitat, and watershed protection. The EIS must analyze the total acreage of inventoried roadless areas that would be lost from development of the railway, including edge effects from loss of forested areas, and degradation of recreational, ecological, scenic, and wilderness values.

The Wells Draw route crosses through the Lears Canyon ACEC in the Vernal Field Office for over one mile.<sup>316</sup> This ACEC contains relict plant communities.<sup>317</sup> The EIS must analyze the impacts of land clearing, habitat fragmentation, and train operations on these special plant communities.

The eastern part of the Craig route appears to pass near several WSAs, including less than a half mile from the Bull Canyon WSA. The majority of this WSA is within five miles of the Craig route, and its southern tip is within the one-mile blast zone. . The Craig route also crosses less than a mile from the Willow Creek WSA; about a mile from the Skull Creek WSA; and less than four miles from the Cross Mountain WSA.<sup>318</sup> WSAs are places that have wilderness characteristics; that is a minimum size, naturalness, and outstanding opportunities for recreation which make them eligible for designation as wilderness. Development of the railway along this path could potentially degrade the wilderness characteristics of this area by introducing noise, traffic, and visual blight. Train horns can be heard from miles away. Any access roads must avoid these areas.

## **XII. Land-Use Changes**

The EIS must analyze the potential for land-use changes, including the loss of residential, agricultural, wilderness, and recreational lands from both development and operation of the railway and oil and gas activities that would be spurred by the railway.

## **XIII. Visual Resources**

The proposed Indian Canyon route runs parallel to or near a section of Highway 191 that has been designated a scenic byway: "Indian Canyon Scenic Byway begins in the community of Duchesne on US Highway 191 and crosses the colorful terrain between the Uintah Basin and the San Rafael Swell near Price, Utah. Varied landscapes of steep and colorful rock formations and conifer and aspen trees provide a special visual treat to Byway Travelers."<sup>319</sup>

The EIS must address how the addition of an industrial railway line (including access roads) would impact the area's natural scenic values.

## **XIV. Night Skies, Natural Quiet**

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<sup>316</sup> Center for Biological Diversity, Map of Railway and Specially Designated Federal Lands (2019d).

<sup>317</sup> BLM, Vernal Field Office Record of Decision & Approved RMP, Appendix G (2008) at 8

<sup>318</sup> See CBD 2019d.

<sup>319</sup> U.S. Forest Service, Ashley National Forest, Special Places: Scenic Byways and Backways, available at [https://www.fs.usda.gov/detailfull/ashley/specialplaces/?cid=fsm9\\_002444](https://www.fs.usda.gov/detailfull/ashley/specialplaces/?cid=fsm9_002444).

The extensive area traversed by the three alternative routes of the proposed Uinta Basin Railway contains exceptional opportunities to experience dark skies and natural quiet. All three of the proposed routes are relatively free of light pollution as can be seen when looking at night light pollution in the vicinity of the proposed railway.<sup>320</sup> The EIS must examine in detail the effects of light and sound pollution from the railroad in the areas surrounding the entirety of the three proposed routes. As was noted by the monument's superintendent,<sup>321</sup> special consideration should be given to Dinosaur National Monument, a world renowned destination for those seeking dark skies. The EIS must examine the impacts that sound from railway operations will have on both humans and wildlife in all areas along the three routes and especially in narrow valleys,. In addition, the EIS must examine the potential effects of light and sound pollution from railway construction and ongoing operation on big game predator behavior and on the behavior of species that pollinate sensitive plant species (See the "Biological Resources" section of these comments).

## **XV. Conclusion**

There is no doubt, that the UBR would have significant, negative environmental impacts stemming from the project's effects on public lands, wildlife, water, air quality, public safety, and further locking in disastrous climate chaos. It seems obvious that such impacts would be inconsistent with the public convenience and necessity. Accordingly, , if the SCIC does file an application to construct and operate a UBR, we call for the STB to deny the request instead of aiding and encouraging the environmental damage the project would inflict.

These comments are submitted with the hope that the EIS prepared by the STB will bring substantive and meaningful information together so that a fully informed decision on this project can be made. Indeed, that is our expectation. We appreciate the opportunity to submit these comments and look forward to seeing them addressed in subsequent NEPA documents. Please feel free to contact us with any questions.

Respectfully submitted,



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<sup>320</sup> Bushman, Tracey, Map of night time light pollution in the UBR area (2019).

<sup>321</sup> Scolari, Paul, NPS Comments on Proposed Uinta County Railroad Line in Northeast Utah (2019). Available at: [https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/179F5D45F787493C85258404005756FB/\\$File/EI-26513.pdf?OpenElement](https://www.stb.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/179F5D45F787493C85258404005756FB/$File/EI-26513.pdf?OpenElement)



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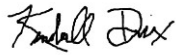
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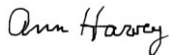
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