
Center for Energy Regulation & Policy Analysis,
School of Energy Resources

ROCK
SPRINGS

RESOURCE MANAGEMENT

PLAN

ACKNOWLEDGMENTS

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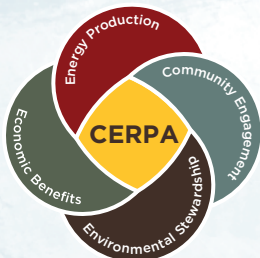
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INTRODUCTION

The Bureau of Land Management (BLM) Rock Springs Field Office (RSFO) manages a significant amount of habitat, rangeland and natural resources in Wyoming. The BLM RSFO planning area¹ consists of approximately 3.6 million acres of federal surface land and 3.7 million acres of federal mineral estate across portions of five counties. Beginning in 2011, BLM commenced efforts to create a new Rock Springs Resource Management Plan (RMP) and released a Draft RMP in 2023 which was met with significant controversy.² In 2024, BLM published its Record of Decision (ROD) and Approved RMP.³ The RMP includes an increase in management provisions that could impact energy development, including Area of Critical Environmental Concern (ACEC) designations, Visual Resource Management (VRM) restrictions, right-of-way (ROW) avoidance and exclusion areas, and fluid mineral restrictions. The increased restrictions contained in the RMP have resulted in significant concerns related to potential impacts to energy development in the planning area, and energy-related revenue for the State.

This paper analyzes the impacts to State revenues generated from energy development resulting from the Rock Springs RMP, by: (1) providing the history of the Rock Springs RMP; (2) describing the overarching energy-related issues in the Draft Rock Springs RMP; (3) comparing the energy-related issues in the Draft RMP to those contained in the Approved RMP; (4) analyzing the energy-related economic impacts of the RMP; (5) outlining the state and local tax revenue implications from the projected energy-related impacts; and (6) providing a discussion of the analysis related to legacy industries, such as oil and natural gas production, as well as emerging industries, such as carbon storage and CO₂ pipeline development.



¹ A BLM planning area is the area for which a resource management plan is developed and maintained.

² *Rock Springs Field Office Draft Resource Management Plan Revision and Draft Environmental Impact Statement*, U.S. DEP'T OF THE INTERIOR BUREAU OF LAND MANAGEMENT (BLM) (May 2023), https://eplanning.blm.gov/public_projects/13853/200030619/20084073/250090255/Volume%201_Rock%20Springs%20RMP%20Revision%20Draft%20EIS_v2.pdf.

³ *Rock Springs Field Office Record of Decision and Approved Resource Management Plan*, BLM (Dec. 2024), https://eplanning.blm.gov/public_projects/13853/200030619/20125383/251025363/RSFO_ROD%20and%20ARMP_20241220_ADA_Final.pdf.

HISTORY OF THE ROCK SPRINGS RMP

The BLM Rock Springs Planning Area consists of 3.6 million federal surface acres and 3.7 million federal mineral estate acres located in portions of Lincoln, Sweetwater, Uinta, Sublette, and Fremont counties in Wyoming. The RMP provides guidance for BLM decision-making for all resources and uses in the Rock Springs Planning Area, including mineral exploration and development, renewable energy, livestock grazing, wildlife habitat, recreation, and historic trails. Considering the total planning area consists of approximately 67% BLM surface and approximately 71% BLM minerals, local industries such as mining, oil and gas, livestock grazing, tourism, and recreation are significantly influenced by the RMP (Table 1).

TABLE 1.

Federal Surface Lands and Federal Mineral Estate Within the Planning Area (acres)⁴

County	BLM Surface in the Planning Area	Other Surface Ownership in the Planning Area	Total (All Ownerships in the Planning Area)	BLM Minerals in the Planning Area
Sweetwater	2,866,264	1,597,147	4,463,411	3,013,913
Sublette	451,253	58,068	456,067	456,067
Lincoln	42,585	2,106	44,691	47,004
Uinta	74,983	22,648	97,631	82,158
Fremont	172,315	28,510	200,825	180,415
Total	3,607,400	1,708,479	5,315,879	3,779,557

The Rock Springs RMP process spanned more than 13 years, with BLM initiating the RMP revision through publication of a Notice of Intent on February 1, 2011, to prepare the Rock Springs RMP which would replace the 1997 Green River RMP.⁵ The Draft RMP was released on August 18, 2023, with a 90-day comment period that was subsequently extended by 60 days to January 17, 2024. The Proposed RMP was published on August 23, 2024, with a protest deadline of September 23, 2024, and a Governor's consistency review deadline of October 22, 2024.⁶ The BLM's ROD and Approved RMP was released on December 20, 2024.⁷

⁴ Rock Springs Field Office Proposed Resource Management Plan and Final Environmental Impact Statement, BLM (Aug. 2024), https://eplanning.blm.gov/public_projects/13853/200030619/20118011/251017991/RSFO_RMP_FEIS_Vol1_web.pdf.

⁵ 76 Fed. Reg. 5607 (Feb. 1, 2011).

⁶ See *supra* note 3.

⁷ See *supra* note 2.

Cooperating agencies were invited to participate in the RMP planning process, with the first cooperating agency training and workshop meeting being held on February 23, 2011. Cooperating agencies are federal, state, and local agencies and organizations in the planning area that participate in the RMP process, including development of alternatives, and providing data and information related to their areas of expertise. State agencies contributed to the

*environmental analysis and documentation process by providing information concerning environmental issues for which the State of Wyoming has jurisdiction by law or special expertise. Provides information from state records on matters that include RMP/LRMP EIS project impacts on air quality and Class 1 airsheds, fish and wildlife, domestic livestock grazing, watershed and water quality, social and economic impacts, minerals, and State of Wyoming permitting requirements.*⁸

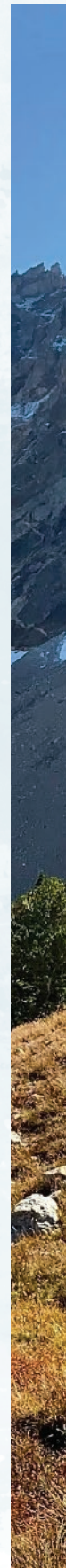
Fremont, Lincoln, Sublette, Sweetwater, and Uinta counties contributed to the “environmental analysis and documentation process by providing information concerning environmental issues for which the county has jurisdiction by law or special expertise.”⁹

The following federal, state, and local agencies and organizations opted to participate in the Rock Springs RMP planning process:

- ✦ City of Rock Springs
- ✦ Coalition of Local Governments
- ✦ Fremont County
- ✦ Lincoln County
- ✦ Lincoln County Conservation District
- ✦ Sublette County Commissioners
- ✦ Sublette County Conservation District
- ✦ Sweetwater County
- ✦ Sweetwater County Conservation District
- ✦ Uinta County
- ✦ Uinta County Conservation District
- ✦ U.S. Bureau of Reclamation
- ✦ U.S. Department of Agriculture: Animal and Plant Health Inspection Service
- ✦ U.S. Environmental Protection Agency
- ✦ U.S. Fish and Wildlife Service
- ✦ U.S. Forest Service
- ✦ U.S. National Park Service
- ✦ Wyoming County Commissioners Association
- ✦ Wyoming Department of Agriculture
- ✦ Wyoming Department of Environmental Quality
- ✦ Wyoming Game and Fish Department
- ✦ Wyoming Geological Survey
- ✦ Wyoming Governor’s Office
- ✦ Wyoming Office of State Lands and Investments
- ✦ Wyoming Pipeline Authority
- ✦ Wyoming State Historic Preservation Office

⁸ See *supra* note 3.

⁹ *Ibid.*



Sixteen cooperating agency meetings were held in Rock Springs, Wyoming, over the course of 12 years, before the Draft RMP was released on August 18, 2023 (Table 2). The majority of the meetings were used to develop the alternatives to be analyzed in the Draft RMP. This process began with compiling Alternative A, the no action alternative, and then developing the bookend alternatives: Alternative B, the conservation alternative, and Alternative C, the development alternative. BLM conducted analysis of all three alternatives which were then provided to the cooperating agencies for review. The information and conclusions contained in the analysis were used to develop Alternative D, which “allows for opportunities to use and develop resources within the planning area while promoting environmental conservation.”¹⁰

TABLE 2.
Cooperating Agency Meetings¹¹

Date	Purpose
February 23, 2011	Training and workshop
September 14-16, 2011	Goals and objectives workshop
November 2-4, 2011	Alternative development
January 9-13, 2012	Alternative development
February 21-23, 2012	Alternative development
March 20-23, 2012	Alternative development
April 16-19, 2012	Alternative development
December 19-21, 2012	Alternative development
October 18-20, 2016	Alternative development
November 8-10, 2016	Alternative development
April 19, 2017	Preliminary Preferred Alternative review
March 28, 2018	Review of comments on preliminary draft RMP/EIS
May 23, 2019	Review of comments on preliminary draft RMP/EIS
July 14, 2020	Alternative review
June 20, 2022	Discuss updates to draft EIS/RMP and Preferred Alternative
August 17, 2023	Review Agency Preferred Alternative and draft EIS contents

The cooperating agencies and BLM spent many hours over the course of 12 years developing Alternative D, with the goal of having that be the Preferred Alternative. BLM ultimately chose Alternative B, the conservation alternative, as the Preferred Alternative in the Draft RMP. The cooperating agencies were not informed of the Agency’s Preferred Alternative until the day before the Draft RMP was released for public comment on August 18, 2023.

¹⁰ *Ibid.*

¹¹ *Ibid.*

Many of the cooperators expressed significant concern with Alternative B being selected as the Preferred Alternative, particularly as it did not fully reflect or support several years' worth of work and collaboration. Accordingly, Wyoming Governor Mark Gordon sent a letter to the BLM on September 26, 2023, requesting that the

*hastily constructed hamfisted draft, as written and including the insincere and impractical choice of Alternative B as the Agency's Preferred Alternative, be completely withdrawn and resubmitted to the public with a newly crafted Preferred Alternative using the years of work by the local field office and cooperators.*¹²

To further address stakeholder concern with the Draft RMP, Governor Gordon appointed a diverse task force to develop consensus recommendations for revising the RMP. Task Force members were representatives of the following entities or sectors:

- ✦ Wyoming Senate
- ✦ Wyoming House of Representatives
- ✦ Conservation
- ✦ Tourism and Economic Development
- ✦ Livestock and Agriculture
- ✦ Local Government
- ✦ Mining and Trona
- ✦ Motorized Access
- ✦ Oil and Gas
- ✦ Renewable Energy and Utilities
- ✦ Sportsmen and Hunting¹³



¹² Governor Gordon Letter to BLM Director Tracy Stone-Manning (Sept. 26, 2023), https://drive.google.com/file/d/19XiK4N7L3pej_bZ-jlTDmxZNkJDCJxJt/view

¹³ Comment submitted to the Bureau of Land Management by: Governor's Task Force on the Rock Springs Resource Management Plan (Jan. 10, 2024), <https://www.uwyo.edu/haub/files/docs/ruckelshaus/collaboration/2023-rmp/rock-springs-task-force-blm-comment.pdf>.



The Task Force met numerous times, both in-person and virtually, between November 15, 2023, and January 9, 2024. Ultimately, the Task Force produced 24 agreements in principle and more than 100 management prescriptions. All Task Force members had to agree on a proposal for it to become a recommendation. Major consensus recommendations included the following:

- ♦ A series of recommendations to conserve landscape around Greater Little Mountain, recognizing years of work by the Greater Little Mountain Coalition to develop a local proposal for management of the area.
- ♦ Acknowledgement of the national and local significance of the trona mining industry by protecting access to and development of the Known Sodium Leasing Area (KSLA).
- ♦ Consensus-based work to bring reasonable management approaches to the “checkerboard” area of the field office that recognize the importance of meeting access needs associated with use of non-BLM lands, managing for wildlife migration, and protecting the visual horizon.
- ♦ In response to strong public sentiment to maintain motorized recreation on BLM lands, along with industries’ needs for motorized access, support for a slate of management actions that will ensure continued motorized use in the field office.
- ♦ Recognizing the historical and current importance of livestock in the region, support for management actions that ensure continued grazing, predator management, and invasive species control.
- ♦ Consensus-based recommendations for protecting key cultural features and natural resources using the ACEC management tool in a few limited areas of the field office.¹⁴

The Governor included the Task Force recommendations in his comments on the Draft RMP submitted to the BLM on January 17, 2024.

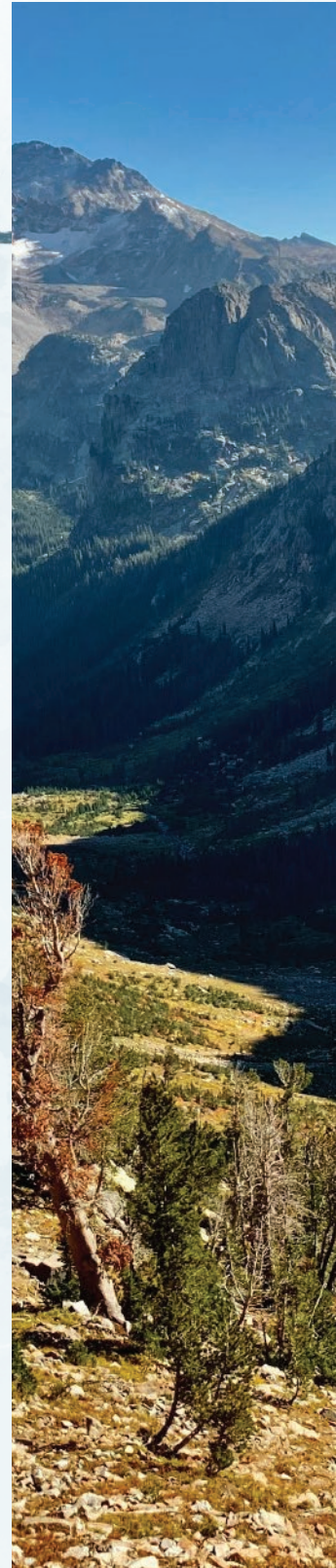
¹⁴ Ibid.

OVERARCHING ENERGY-RELATED ISSUES IN THE DRAFT ROCK SPRINGS RMP

The Draft RMP and associated environmental impact statement (EIS) contained a variety of methodological and substantive issues that were widely criticized by many stakeholders ranging from industry participants to state government officials. Most of these criticisms are still relevant for the RMP, which is a combination of Alternatives A, B, and D from the Draft RMP, and contains a slightly updated, rather than substantively revised EIS. Broadly speaking, the EIS relied on highly outdated oil and gas development projections, failed to consider spillover impacts onto private land inherent in the “checkerboard” of private and federal lands found throughout Wyoming, and overlooked significant economic impacts associated with recently expanding industries including low-carbon technologies and recreation.

The Rock Springs RMP primarily relies on a Reasonably Foreseeable Development Scenario for Oil and Gas (RFD) dated September 25, 2013.¹⁵ The RFD predicts oil and natural gas development and production volumes in the planning area and is utilized to analyze potential surface disturbance, air, water, and social impacts.

The RFD does not fully take into consideration the advancements made in drilling technology that drastically reduced the footprint of oil and natural gas development. Prior to 2010, oil and natural gas development predominantly took place through the use of vertical wells that were drilled on single-well pads.¹⁶ After 2010, directional and horizontal wells with multiple wells per pad became more prevalent.¹⁷ Through further development of this technology, some wells in Wyoming are now being drilled two miles deep with laterals approaching four miles long.¹⁸ This technological advancement has significantly reduced the surface disturbance associated with oil and natural gas development and allows operators to access lease parcels with no surface occupancy, timing limitations, or conditional surface use stipulations.¹⁹



¹⁵ Dean P. Stilwell, *Final Reasonable Foreseeable Development Scenario for Oil and Gas*, BLM (Sept. 25, 2013), https://eplanning.blm.gov/public_projects/lup/13853/46225/49886/RSEFO_RFD_FINAL-resized.pdf.

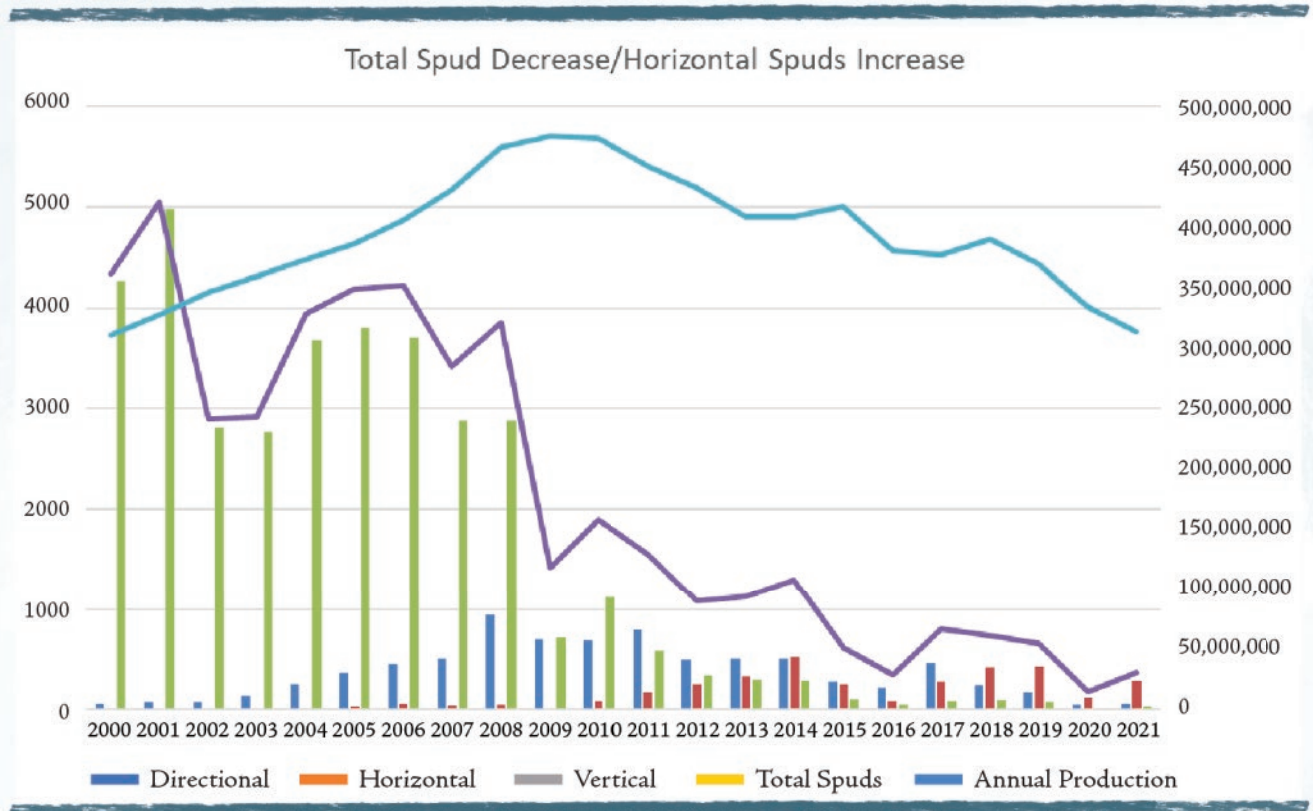
¹⁶ PAW and Western Energy Alliance Letter to BLM Wyoming State Director Andrew Archuleta, WESTERN ENERGY ALLIANCE (May 1, 2023), https://growthzonecmsprodeastus.azureedge.net/sites/2099/2024/10/23.paw-alliance_protest_wy_blm_q2_2023_lease_sale.pdf.

¹⁷ *Ibid.*

¹⁸ *Ibid.*

¹⁹ Dave H. Applegate and Nick L. Owens, *Oil and gas impacts on Wyoming's sage-grouse: summarizing the past and predicting the foreseeable future*, 8 *Human-Wildlife Interactions* 284 (2014).

FIGURE 1:
Wyoming Oil and Natural Gas Wells and Production.²⁰



When comparing the number of wells drilled in Wyoming from 2000 to 2021, it is evident that even though there were six times as many wells spud in 2000 than in 2021, there was no corresponding decrease in the amount of production (Figure 1).²¹

Perhaps even more striking than the use of a decade-old development scenario is the outright omission of potentially significant impact to private lands within the planning area. The planning area has highly fragmented surface and mineral ownership, commonly referred to as the “checkerboard”, where alternating public land survey system (PLSS) sections are owned by the BLM and private parties. This creates the scope for significant spillover effects whereby public land management decisions can impact the ability to develop and use resources on private land. Another important implication of the proposed alternatives in the Draft RMP were changes to rules governing ROWs across BLM land to develop projects. As such, the Approved RMP significantly expands “exclusion” classifications for ROWs, essentially precluding access across implicated lands.

Similarly, the Draft RMP assumed zero impact to wind energy development. After substantial pushback from stakeholders across the State, the Approved RMP includes a qualitative discussion that recognizes the fact that wind development will likely be impaired by new ROW designations, but the BLM has still neglected to estimate the scope and scale of these impacts.

²⁰ Graph created using WOGCC well and production data from 2000 to 2021.

²¹ See *supra* note 16.

Another major point of contention was the designation of ACECs across the planning area. ACECs are defined as

*areas within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards.*²²

The ACEC designation process requires BLM to show that the area meets the relevance, importance, and special management attention criteria. In other words, BLM must show that the area has “important historic, cultural, or scenic values; fish or wildlife resources; natural systems or processes; or natural hazards potentially impacting life and safety” (relevance), that “has qualities of special worth, consequence, meaning, distinctiveness, or cause for concern” (importance), that require special management attention to “protect and prevent irreparable damage to the relevant and important values” (special management attention).²³

The previous RMP designated ten ACECs in the planning area consisting of 286,470 acres. The current RMP includes 12 ACEC designations consisting of 936,193 acres which accounts for approximately 26% of the federal lands in the Rock Springs planning area, representing a 226% increase in ACEC acreage.²⁴ See Table 3 for previous and current ACEC designations in the Rock Springs planning area.

TABLE 3.
Rock Springs RMP ACEC Designations²⁵

ACEC	Previous RMP	Current RMP
Greater Red Creek (<i>renamed to Little Mountain ACEC</i>)	131,604 acres	115,573 acres
Steamboat Mountain	47,280 acres	439,081 acres
South Wind River	0	281,104 acres
South Pass Historic Landscape	53,940 acres	53,772 acres
Oregon Buttes	3,440 acres	3,441 acres
Greater Sand Dunes	3,9290 acres	26,746 acres
White Mountain Petroglyphs	20 acres	22 acres
Big Sandy Openings	0	1,994 acres
Pinnacles	0	1,344 acres
Natural Corrals	1,110 acres	1,107 acres
Pine Springs	6,030 acres	6,483 acres
Special Status Plants	1,200 acres	4,469 acres
Cedar Canyon	2,540 acres	0

²² 43 C.F.R. §1601.0-5(a).

²³ 43 C.F.R. §1610.7-2.

²⁴ See *supra* note 3.

²⁵ Fact Sheet: Rock Springs Final EIS and Proposed RMP, BLM (Aug. 23, 2024), https://eplanning.blm.gov/public_projects/13853/200030619/20118153/251018133/Fact%20Sheet_%20Rock%20Springs%20RMP_Final.pdf.

While the RMP lists the relevance, importance, and rationale for the proposed ACEC designations, BLM's analysis for the expanded and new ACEC designations does not include discussion of how the ACEC will prevent and protect the resource from irreparable damage, including why existing protections are insufficient.

From an oil and natural gas development perspective, there is particular concern around the newly proposed South Wind River ACEC consisting of 281,104 acres (~439.23 square miles), portions of which contain existing BLM oil and gas leases. BLM's proposed management for this area includes ROW exclusion and no mineral leasing. It further states that BLM will pursue a mineral withdrawal in the area and that existing mineral leases would not be offered for lease once they expire. This would have a significant impact on oil and natural gas development in the planning area, particularly as producers will be unable to procure additional leases to complete plays in the area.

In BLM's relevance and importance analysis, it lists National Historic Trails that cross through the area, sensitive species of fish, Greater Sage-Grouse Priority Habitat Management Area (Wyoming Sage-Grouse core area), and the Sublette Mule Deer Migration Corridor as the rationale for designating this large expanse.²⁶ BLM, however, does not state how the ACEC will prevent and protect each resource from irreparable damage, including why existing protections are insufficient, particularly those provided by Sage-Grouse core areas and designated migration corridors.

The Wyoming Game and Fish Department (WGFD) addressed this issue in its protest letter on the Proposed RMP submitted to BLM on September 23, 2024, stating that Sage-Grouse protection in the area is sufficient and supported by science

The Steamboat Mountain ACEC is proposed as an exclusion area for rights-of-way and the South Wind River ACEC is proposed to be managed as an exclusion area for rights-of-way and surface disturbing activities, closed to mineral material sales, and closed to mineral leasing. The BLM currently has exclusion, avoidance, and controlled surface use measures (i.e. BLM 2015 Greater Sage-Grouse Rangewide Resource Management Plan Amendment and Instruction Memorandum 2023-007) which provide for the consideration of wildlife resources which are managed and protected under the State's authority. The blanket exclusionary restrictions, as well as the expansive area proposed for these ACECs, are not supported by science.²⁷

The WGFD further stated with regard to protections provided through Wyoming's Migration Corridor Executive Order (MCEO) that

by encompassing the migration corridor within an exclusion area, the flexibility to site projects, with the protections afforded by the MCEO is lost, and project siting may be re-focused on non-BLM lands within the migration corridor where impacts to mule deer and other wildlife species may be greater.²⁸

²⁶ See *supra* note 3.

²⁷ Wyoming Game and Fish Department Protest Letter to BLM Director Tracy Stone-Manning (Sept. 23, 2024), https://drive.google.com/file/d/1iV9UnBzTGNV-EbQ6ONSP_QDSG7_cSmlT/view, p. 193.

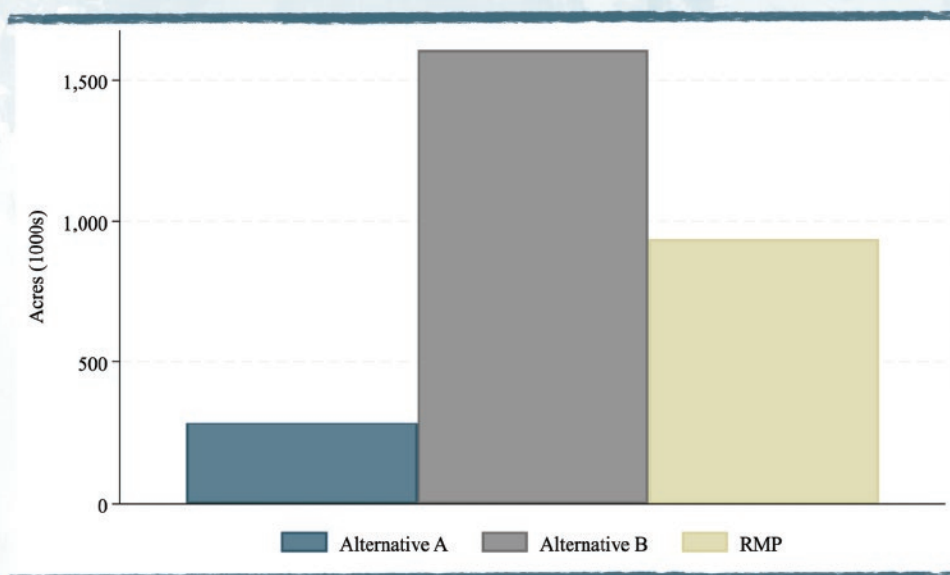
²⁸ *Ibid.*

THE RMP BY THE NUMBERS

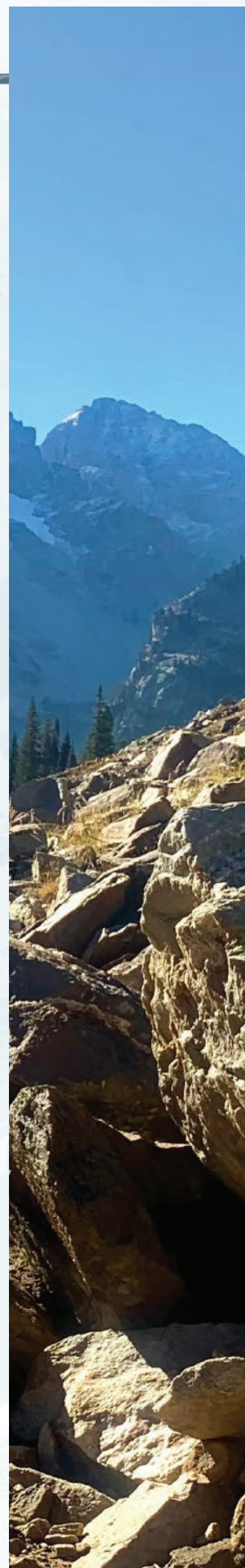
The BLM characterized the RMP issued in December 2024 as a compromise between the Draft RMP and the State of Wyoming's interests. While it is true that the RMP differs substantially from Alternative B (the Draft RMP) on some margins, there are still significant impacts for the State when compared to the status quo baseline represented by Alternative A. Comparing Alternative A, Alternative B, and the RMP across several critical margins illustrates this point.

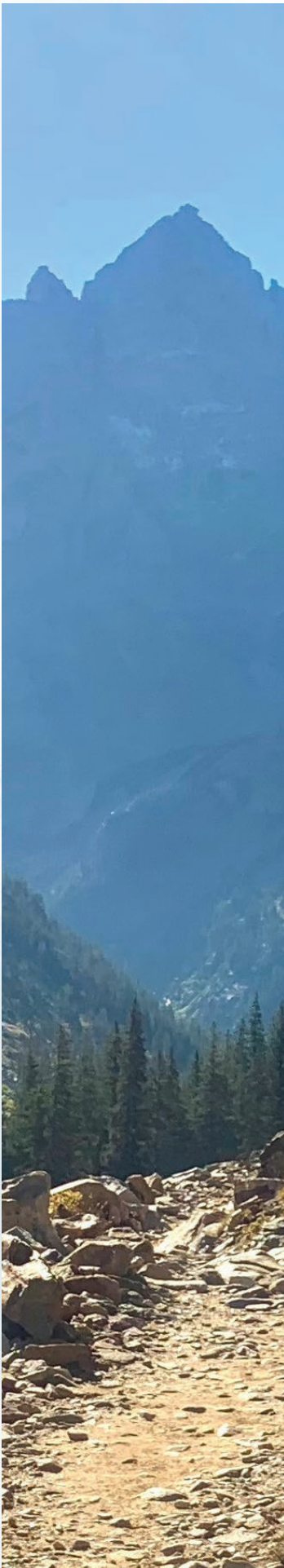
The designation of ACECs, depicted in Figure 2, is broadly representative. If the previous RMP were left in place (Alternative A), there would be roughly 286,000 acres designated as ACECs in the Rock Springs Management Area. Under Alternative B, there would have been over 1.6 million acres of ACECs, a 460% increase. The RMP falls somewhere in the middle with about 935,000 acres of ACEC designations. The BLM emphasized the reduction of nearly 700,000 acres from Alternative B to the RMP, but this misses the fact that the RMP still contains a 226% increase in acreage of ACECs relative to the status quo. In thinking about the impacts to the region and the State, this change from the baseline is the relevant comparison.

FIGURE 2.
Comparison of ACEC Acreage Across Alternatives



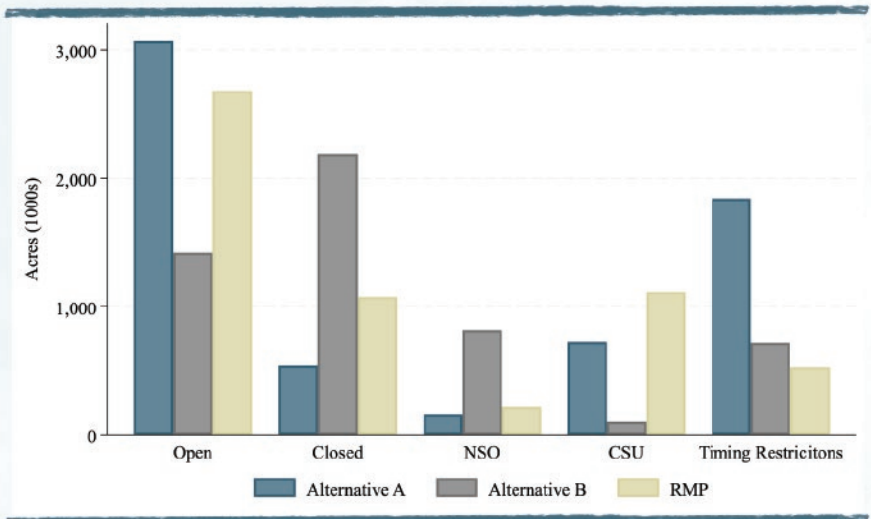
Notes: This figure depicts the number of acres designated as “Areas of Critical Environmental Concern” for several alternatives associated with the RMP. Alternative B represents a 460% increase relative to the status quo, while the RMP represents a 226% increase.





The designation of ACECs is a representative example and also has direct implications for the management of fluid minerals, grazing allotments, and other resources. Each of these resources is subject to its own management designations (which may or may not overlap ACEC boundaries) that differ across each alternative. Here, we focus on ACEC designations that impact the development of energy resources and compare how those designations vary across alternatives.

FIGURE 3.
Comparison of Fluid Mineral Stipulations

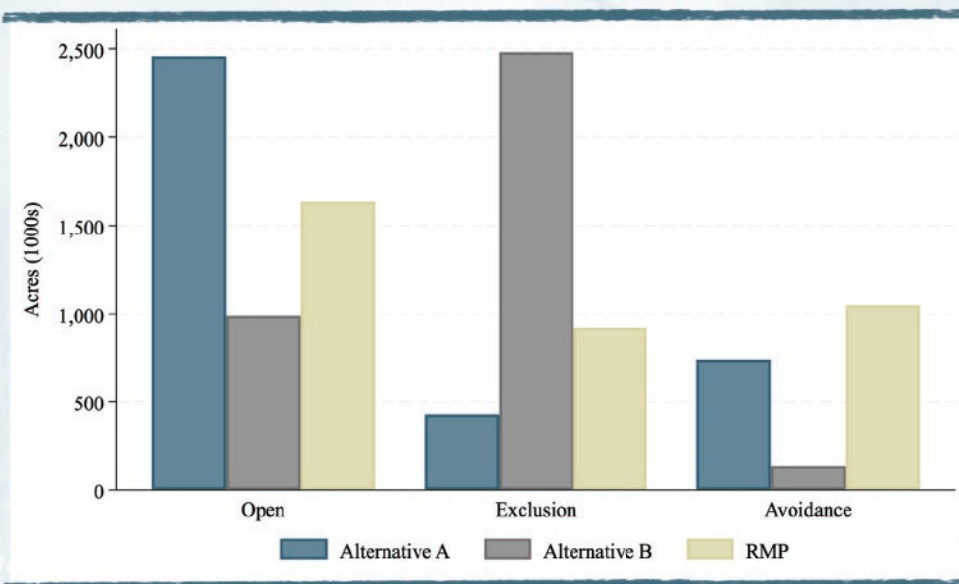


Notes: This figure depicts the number of acres associated with each management designation for fluid minerals under several alternatives associated with the RMP. Alternative B represents a 460% increase relative to the status quo, while the RMP represents a 226% increase.

Figure 3 depicts the number of acres associated with different management designations for fluid minerals (e.g., oil and gas) development under the three alternatives. While Alternative B would have cut the number of “open” acres subject only to standard requirements in half, the RMP reduces open acreage by about 12% relative to the status quo. Importantly, though, the number of acres completely closed to drilling roughly doubles under the RMP, due mostly to changes in other management designations, particularly ACECs. Relative to the status quo, there would be a large reduction in acres subject only to seasonal timing restrictions, while there would be a 35% increase in “No Surface Occupancy” requirements and a 54% increase in “Controlled Surface Use” designations. The upshot is that while there is a modest reduction in open acres under the RMP, the re-shuffling of other management designations leads to a more than doubling of closed acreage as well as a large increase in the number of acres subject to other stipulations.

Another important class of land use restrictions in the Rock Springs planning area is associated with federal ROWs. Surface infrastructure, including roads and pipelines necessary for oil, gas, coal, and trona development, requires ROWs when it crosses BLM land. Wind and solar leases are also issued as ROWs. ROW designation categories include “open,” “exclusion,” and “avoidance” areas. Open areas require no special considerations, whereas if approval is granted in avoidance areas it typically involves mitigation requirements, and ROWs are prohibited from being granted in exclusion areas. The RMP reduces areas open for ROWs by 33% relative to the status quo, while increasing exclusion areas by 115% and avoidance areas by 42%.

FIGURE 4.
Comparison of Rights of Way



Notes: This figure depicts the number of acres associated with each management designation for rights of way under several alternatives associated with the RMP.

Visual Resource Management Areas (VRM) also differ substantially across each alternative. VRM classifications range from I to IV, with decreasing stringency in terms of restrictions on activities that alter the visual appearance of the landscape. The goal of Class I designations is to “[p]reserve the existing character of the landscape. The level of change should be very low and must not attract attention,” whereas Class II designations propose to “[r]etain the existing character of the landscape. Allow a low level of change that should not attract the attention of a casual observer.” Figure 5 depicts the number of acres in each VRM class under the status quo (Alternative A), Alternative B (Draft RMP), and the RMP. Class I VRMs are very similar to the status quo under both alternatives, but the other classes vary considerably. Relative to the status quo, the RMP entails a 268% increase in Class II acres, a 75% decrease in Class III acres, and an 11% decrease in Class IV acres. Hence, the net result is to move a substantial number of acres from less stringent to more stringent VRM classifications.

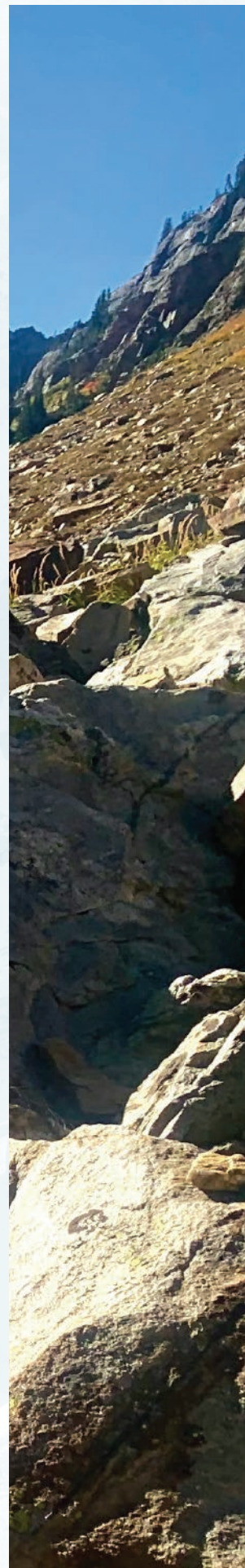
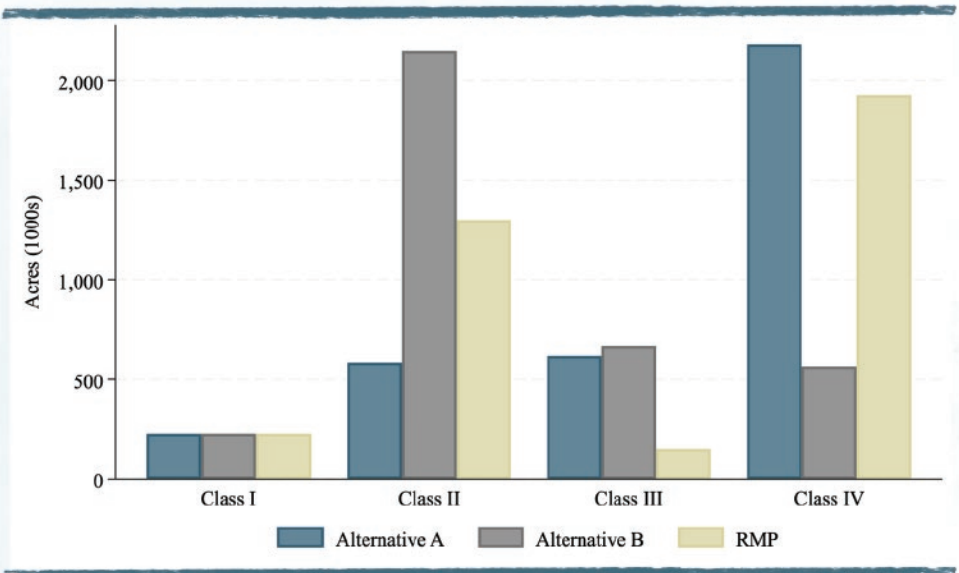




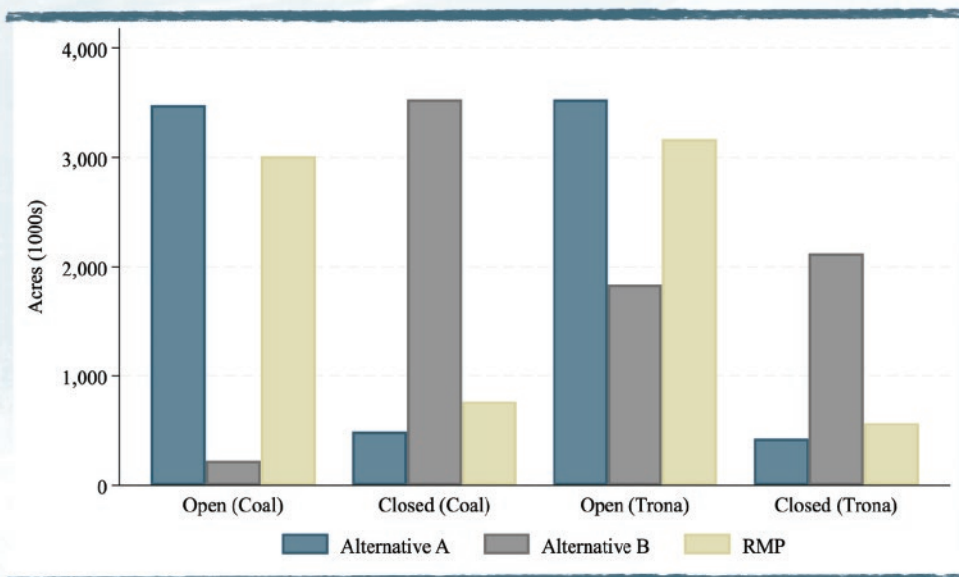
FIGURE 5.
Comparison of Visual Resource Management Areas



Notes: This figure depicts the number of acres associated with each Visual Resource Management Class under several alternatives associated with the RMP.

Finally, we compare the acres open vs. closed for coal and trona development under each of the alternatives vs. the status quo. Compared to the status quo, the RMP reduces areas open to coal mining by 13% and trona mining by 10%. The percentage changes in closed areas are larger—58% for coal and 37% for trona—because the number of closed areas is smaller under the status quo. On net, coal and trona designations saw some of the largest movement from Alternative B back toward the status quo Alternative A within the RMP.

FIGURE 6.
Comparison of Coal and Trona Designations



Notes: This figure depicts the number of acres open or closed to coal and trona development under several alternatives associated with the RMP.

ENERGY-RELATED ECONOMIC IMPACTS OF THE RMP

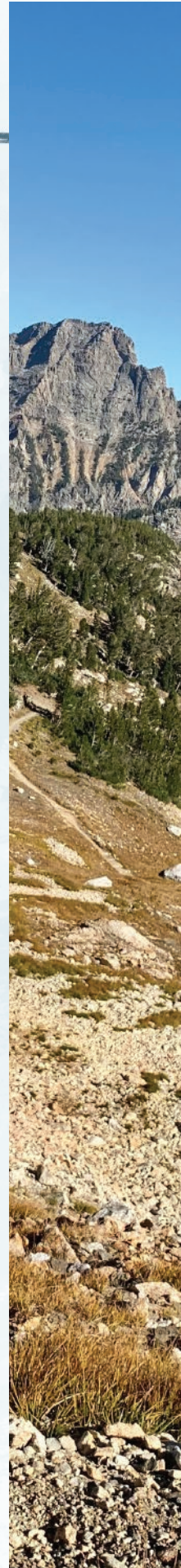
In this section, we provide our own assessment of some of the economic impacts of the RMP that are meant to improve on some of the most significant shortcomings of the BLM's analysis. We develop quantitative estimates of economic impacts of restrictions on fluid mineral development as well as wind energy development. We begin by forecasting oil and gas production and discussing existing forecasts of wind energy development under the status quo before describing how various changes in fluid mineral designations, ROWs, and VRM areas are likely to impair development under the RMP. Next, we consider the state and local tax implications of the projected impacts. Finally, we complement this analysis with a discussion of potential impacts to trona mining and other important considerations that are difficult to precisely quantify.

The first step in our analysis is to estimate an econometric model relating historical oil and gas prices to drilling activity in the planning area. To do this, we obtain data from the Wyoming Oil and Gas Conservation Commission (WOGCC) on every well that was spudded in the planning area since 1997. We associate each well with a geologic formation by overlaying the coordinates of each well with data on geologic formations also obtained from WOGCC. Our estimating sample includes 2,214 wells drilled in 82 unique formations, although most of these wells are found in fewer than a dozen formations. We obtained information on Henry Hub natural gas prices from the U.S. Energy Information Administration. We focus on natural gas prices because most wells in the planning area are spudded for natural gas rather than oil.

We estimate the following regression model:

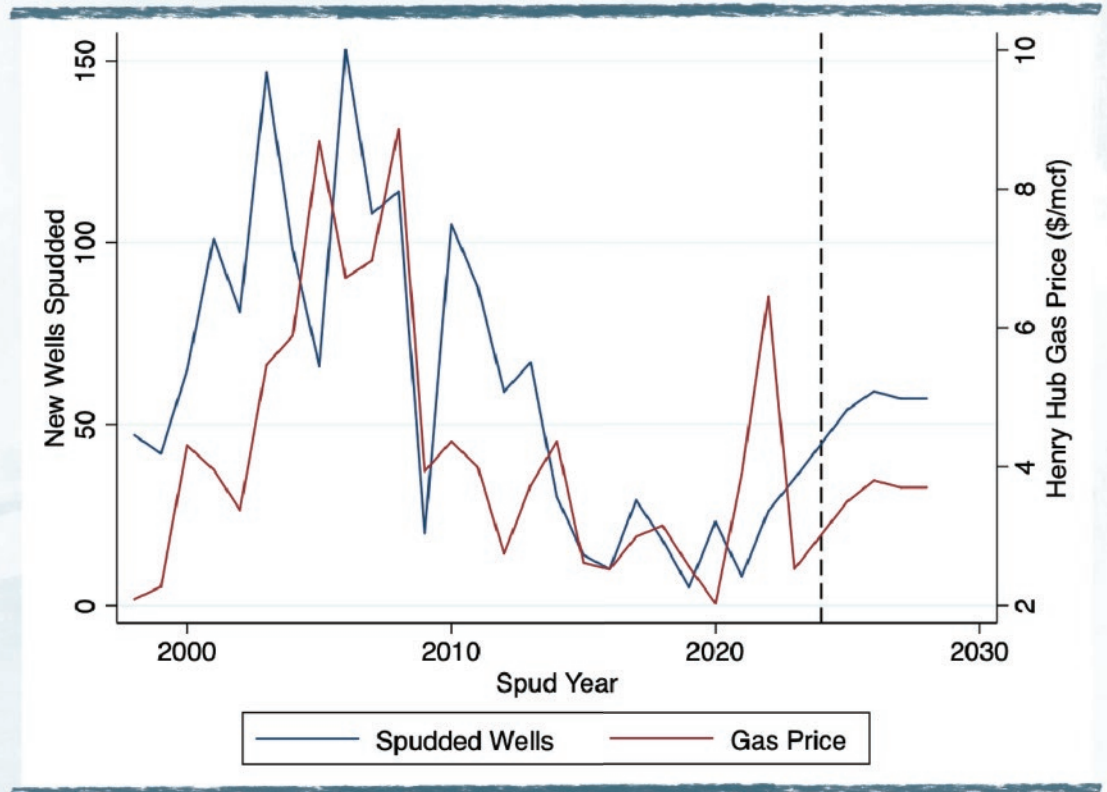
$$Wells_{it} = \beta_1 \ln(Price_t) + \lambda_i + \varepsilon_{it}$$

where $Wells_{it}$ is the number of new wells spudded in formation i in year t , $\ln(Price_t)$ is the natural log of gas prices in year t , λ_i is a vector of formation fixed effects, and ε_{it} is an idiosyncratic error term. Formation fixed effects capture time-constant differences between formations (e.g., the fact that some formations see much more activity than others). The coefficient β_1 can be interpreted as a semi-elasticity that relates percentage changes in gas prices to the drilling of new wells. Our estimate of β_1 , denoted $\hat{\beta}_1$, is 0.433 with a standard error of 0.0375 and a p-value of 0.001, indicating that natural gas prices are a statistically significant predictor of drilling activity. The magnitude of $\hat{\beta}_1$ implies that a 10% increase in oil and gas prices would lead to roughly 4 new wells in the average formation in the planning area in a given year.



We combine our estimate of the price elasticity of drilling activity, along with other model parameters with natural gas price forecasts produced by the Consensus Revenue Estimating Group (CREG) to predict the number of new wells that would be drilled in each formation in each year from 2025 through 2028, the years for which CREG price forecasts are available. A summary of our predictions, along with historical drilling and price trends, are depicted in Figure 7 (quantities to the right of the dashed line indicate forecasts). Figure 7 indicates that predicted drilling activity is in line with historical activity during periods with similar price trends.

FIGURE 7.
Gas Prices and Well Spuds



Notes: This figure depicts historical and predicted gas prices and well spuds.

Whereas Figure 7 depicts forecasts for the total number of new wells spudded annually across the entire planning area from 2025 to 2028 under Alternative A, our estimates of the impacts of the RMP utilize formation-specific predictions developed from our model. To do so, we estimate what proportion of each geologic formation is impacted by various management designations and then re-scale predicted drilling based on these proportions. For example, if a formation is predicted to have ten new wells in 2025 but 60% of the acreage of that formation is subject to fluid mineral closures, we would estimate that the impact of the closures in that formation is to reduce the number of new wells spuds by six. We estimate the extent of overlap between changes to fluid mineral closures, “no surface occupancy” fluid mineral designations, and Class II VRMs with each geologic formation in the planning area to produce estimates of reductions in drilling activity due to these designations.

After obtaining predicted impacts to well spuds, we translate these estimates into foregone production in several steps. First, we apply the average completion rate for well spuds in the planning area (97%) to estimate how many spudded wells would ultimately go into production. Next, we multiply our estimate of completed wells by the average share of new wells that are primarily gas (90%) vs. oil (10%) wells. Finally, we use estimated oil and gas production decline curves obtained from the Enhanced Oil Recovery Institute (EORI) based on all wells completed since 2013 to assign annual oil and gas production to each newly completed well over 2025—2028 (the years for which we can use price forecasts to estimate the value of production).

Table 4 summarizes our estimated impacts of the RMP on oil and gas production through 2028. The top panel summarizes the direct impact of the fluid mineral closures specified in the RMP, amounting to roughly \$100 million in foregone revenue over the first five years. Estimating the impacts of NSO restrictions and VRM Class II restrictions is more difficult because it is not clear what the net impact on production will be in these areas. While production will, in principle, be allowed to occur in some form, these designations increase the BLM’s ability to block additional drilling and make these areas costlier to pursue for developers. Our approach here is to estimate an upper-bound pessimistic scenario for each type of designation under the assumption that no new wells are drilled in these areas. Making this assumption for NSO areas adds another \$40 million in foregone revenue where VRM Class II designations would result in another \$102 million in foregone revenue if no new wells were drilled in these areas.



TABLE 4.
Projected Declines in Oil and Gas Production from RMP

Fluid Mineral Closures					
Year	Gas production (mcf)	Oil Production (bbl)	Gas Revenues (\$)	Oil Revenues (\$)	Combined Revenues (\$)
2025	1,201,500	93,869	4,205,250	7,040,138	11,245,388
2026	2,334,139	181,365	8,869,727	12,695,577	21,565,305
2027	3,402,496	262,934	12,589,234	18,405,347	30,994,582
2028	4,410,834	338,985	16,320,084	22,034,015	38,354,099
Total	11,348,968	877,152	41,984,295	60,175,077	102,159,374
No Surface Occupancy					
	Gas production (mcf)	Oil Production (bbl)	Gas Revenues (\$)	Oil Revenues (\$)	Combined Revenues (\$)
2025	480,600	37,547	1,682,100	2,816,055	4,498,155
2026	933,656	72,546	3,547,891	5,078,231	8,626,122
2027	1,360,998	105,173	5,035,694	7,362,139	12,397,833
2028	1,764,333	135,594	6,528,034	8,813,606	15,341,640
Total	4,539,587	350,861	16,793,718	24,070,031	40,863,750
VRM Class IV					
	Gas production (mcf)	Oil Production (bbl)	Gas Revenues (\$)	Oil Revenues (\$)	Combined Revenues (\$)
2025	1,201,500	93,869	4,205,250	7,040,138	11,245,388
2026	2,334,139	181,365	8,869,727	12,695,577	21,565,305
2027	3,402,496	262,934	12,589,234	18,405,347	30,994,582
2028	4,410,834	338,985	16,320,084	22,034,015	38,354,099
Total	11,348,968	877,152	41,984,295	60,175,077	102,159,374
Combined Impacts					
	Gas production (mcf)	Oil Production (bbl)	Gas Revenues (\$)	Oil Revenues (\$)	Combined Revenues (\$)
2025	2,883,600	10,092,600	225,284	16,896,330	26,988,930
2026	5,601,933	21,287,345	435,277	30,469,386	51,756,731
2027	8,165,990	30,214,162	631,040	44,172,834	74,386,996
2028	10,586,000	39,168,201	813,564	52,881,637	92,049,838
Total	27,237,523	100,762,308	2,105,165	144,420,187	245,182,495

Notes: This table depicts the projected reductions in oil and gas production associated with several specific provisions of the RMP that are projected to have the largest impact on oil and gas development.

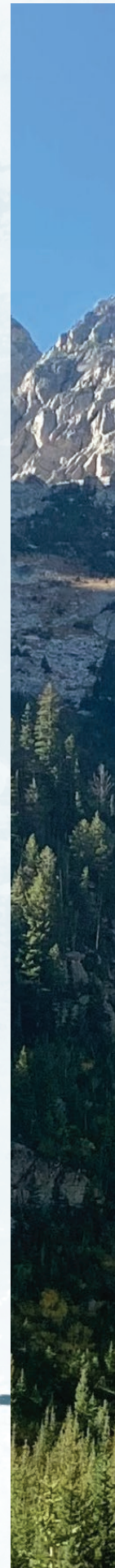
Next, we assess the impact of ROW restrictions on wind energy development within the planning area. To do so, we consider one of many recently developed scenarios for the generation and transmission infrastructure that would be required to achieve a net-zero national energy grid by 2050. In recent years, a variety of techno-economic models have been developed to project least-cost scenarios for reaching net-zero emissions goals. These planning tools, such as the Regional Energy Development System Model from the National Renewable Energy Laboratory (NREL) are computational optimization models that take in data on grid and transmission constraints, projected demand, resource capacity and cost estimates, and future policy scenarios to produce spatially explicit projections of where solar, wind, and other renewable energy resources and grid infrastructure should be placed to minimize the cost of reaching net-zero energy goals by 2050.

For the purposes of this study, we utilize the scenarios developed by Wu et al. (2022), which combines the Optimal Renewable Energy Build-out (ORB) framework and Multicriteria Analysis and Planning for Renewable Energy Zoning Tools (Wu et al. 2017) to create a variety of candidate project areas.^{29, 30} This study is useful for our purposes because it considers the impact of varying levels of environmental habitat protection (one of the goals of the RMP's ACECs) when projecting where renewable generation should perhaps be built. As noted by the BLM, the primary renewable energy resource in the planning area is wind energy, and that is our focus here. We consider the most lax and more stringent "siting levels" for habitat protection from Wu et al. Siting Level 1 involves the most lax protections and only removes sites from consideration if development is already explicitly forbidden there (e.g., a National Park). Siting Level 3 also removes from consideration any site that already requires administrative approval for development (e.g., an existing ACEC or Critical Habitat under the Endangered Species Act) as well as any site identified as having "high conservation value" by federal, state, academic, or NGO eco-region analyses. These two siting constraints provide "bookend" development scenarios based on how much habitat disruption would be allowed, and they provide a useful way to gauge the relative stringency of the BLM's proposed ROW restrictions within the planning area.

Our primary focus for the impact of ROW designations is on areas designated as "exclusion" under the RMP as wind energy development would not be allowed to occur in these areas. We also gauge the potential upper-bound impacts of ROW "avoidance" designations under the strong assumption that no new wind development occurs in these areas either. This may be an overly stringent assumption, but it provides an upper bound on the potential impacts of ROW designations on wind energy development within the planning area. To gauge the impacts of both types of designations, we overlay the precise locations of each type of designation with the "candidate project areas" (CPAs) developed by Wu et al. (2021) for both of those scenarios. These CPAs include estimates of installed nameplate capacity (in MW) as well as capacity factors that can be used to estimate annual generation (in MWhs).

²⁹ Wu, G. C., Jones, R. A., Leslie, E., Williams, J. H., Pascale, A., Brand, E., ... & Stanley, C. K. (2023). Minimizing habitat conflicts in meeting net-zero energy targets in the western United States. *Proceedings of the National Academy of Sciences*, 120(4), e2204098120.

³⁰ Wu, G. C., Deshmukh, R., Ndhulukula, K., Radojicic, T., Reilly-Moman, J., Phadke, A., ... & Callaway, D. S. (2017). Strategic siting and regional grid interconnections key to low-carbon futures in African countries. *Proceedings of the National Academy of Sciences*, 114(15), E3004-E3012.



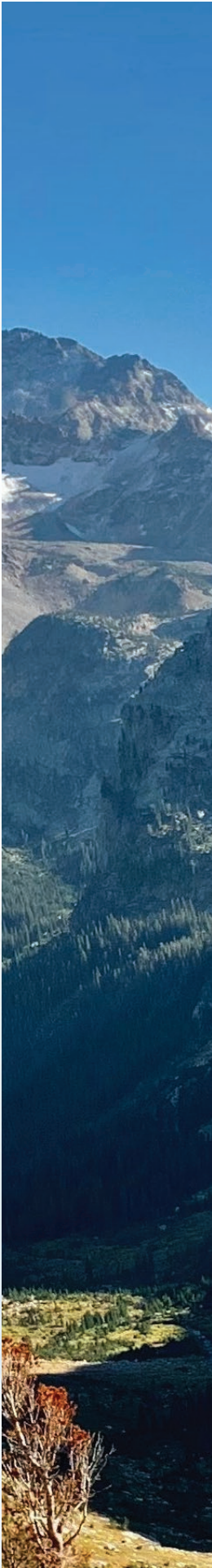


TABLE 5.
Projected Declines in Wind Energy Production from RMP

Habitat Siting Level 1		
Designation	Installed Capacity (MW)	Annual Generation (MWh)
Exclusion	13,629	46,565,918
Avoidance	46,395	158,900,250
Total	60,024	205,466,168

Habitat Siting Level 3		
Designation	Installed Capacity (MW)	Annual Generation (MWh)
Exclusion	1,142	4,442,177
Avoidance	8,497	31,042,056
Total	9,639	35,484,233

Notes: This table depicts the projected reductions in wind energy production associated with ROW designations in the RMP under relatively lax (Level 1) and restrictive (Level 3) siting constraints to protect important habitats.

Table 5 summarizes the results of our analysis of wind energy impacts from ROW designations. Under the most relaxed habitat siting constraint (Level 1), ROW exclusions in the RMP would preclude the development of candidate projects totaling more than 13,500 MW that could yield over 45 million MWh worth of annual electricity generation. If ROW avoidance areas are also not developed, then the impact of the RMP more than quadruples, potentially preventing more than 60,000 MW worth of installed capacity and over 205 million MWh of annual electricity generation. These are large projected amounts of wind energy generation, but building renewable projects on this scale would be necessary to meet current federal net-zero commitments, and similar projections are being made across a variety of models. The impacts of the RMP are more modest under the more restrictive Level 3 habitat siting constraints from Wu et al. (2022) but would still entail more than 1000 MW worth of foregone installed capacity that could generate nearly 4.5 million MWh per year.

Next, we consider the state and local tax revenue implications of these projected energy impacts.

STATE AND LOCAL TAX REVENUE IMPLICATIONS FROM PROJECTED ENERGY IMPACTS

First, the projected impacts on oil and natural gas production were used to determine the tax revenue impacts as a result of the implementation of the RMP. There are three major taxes and royalties relevant to oil and natural gas extraction in Wyoming: severance, ad valorem, and federal mineral royalties.

Wyoming severance tax for oil and natural gas is applied on 100% of the assessed value of the extracted oil and natural gas at a 6% tax rate.³¹ Severance tax revenue is generally appropriated to different funds within the State as designated by legislation, including the State General Fund and the Permanent Wyoming Mineral Trust Fund.³² In 2023, Wyoming received more than \$997 million in severance tax revenue from all sources, including oil and natural gas.³³

Second, an ad valorem tax on production, a form of property tax, is applied to 100% of the assessed value of the extracted mineral. The assessed value of the mineral is then multiplied by the mills levied within the county where the mineral was extracted. Unlike severance tax, ad valorem tax revenue is primarily retained by the local governments where the tax was derived, funding important functions such as K-12 education and local and county government.³⁴ Wyoming counties received more than \$932 million in ad valorem tax revenue statewide in 2023.³⁵

Third, federal mineral royalties are a tax on the sales value of the extracted minerals where a portion of the royalty is appropriated back to the state where the royalty was derived.³⁶ Federal mineral royalties are generally 16.67% and are split equally between the federal government and the State after the payment of an administrative fee to the federal government.³⁷ In 2022, Wyoming received \$870 million in federal mineral royalties.³⁸

³¹ Brenda Henson, Director, 2024 Annual Report, WYOMING DEP'T OF REVENUE (revised Oct. 16, 2024), https://drive.google.com/file/d/1xxPuPeKg_4nD_ktvC7rUMdX3gunLXwCU/view.

³² 2023 Budget Fiscal Data Book, WYOMING LEGISLATIVE SERVICE OFFICE (WYOMING LSO) (Dec. 2022), <https://wyoleg.gov/2023/Databook/Historical/2023%20Data%20Book.pdf>.

³³ Wyoming State Government Revenue Forecast Fiscal Year 2025 – Fiscal Year 2030, CONSENSUS REVENUE ESTIMATING GROUP (CREG) (Oct, 2024), <https://wyoleg.gov/budget/CREG/Reports/October2024CREGReport.pdf>.

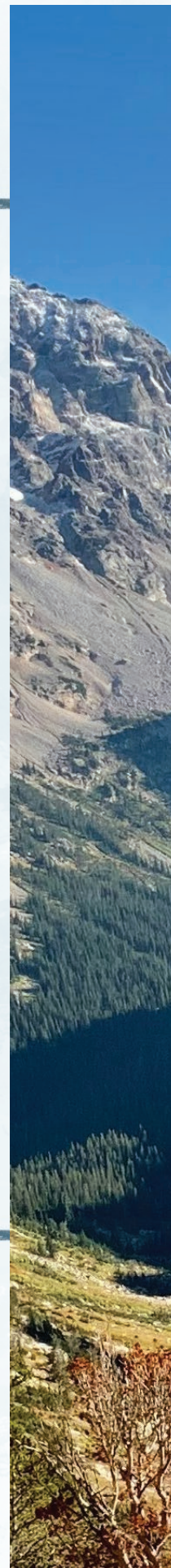
³⁴ See *supra* note 25.

³⁵ See *supra* note 24.

³⁶ See *supra* note 25.

³⁷ Fiscal Budget Overview, UNIVERSITY OF WYOMING COLLEGE OF BUSINESS, CENTER FOR BUSINESS AND ECONOMIC ANALYSIS, <https://www.uwyo.edu/cbea/fiscal-budget/overview.html>.

³⁸ See *supra* note 26.



Using the projected combined production impacts for oil and natural gas in Table 4, tax and royalty revenue impacts can be determined. Table 6 shows these different tax and royalty revenue impacts under the RMP.

TABLE 6.
Projected Tax and Royalty Impacts from RMP Oil and Natural Gas Production Forecast

Tax and Royalty Impacts	2025	2026	2027	2028	Totals
Severance Tax	\$1,618,336	\$3,105,404	\$4,463,220	\$5,522,990	\$14,709,950
Ad Valorem Tax	\$1,721,894	\$3,302,079	\$4,745,890	\$5,872,780	\$15,642,643
Federal Mineral Royalties	\$3,373,616	\$6,469,591	\$9,298,374	\$11,506,230	\$30,647,811
Total Tax and Royalty Impacts	\$6,713,846	\$12,877,074	\$18,507,484	\$22,902,000	\$61,000,404

With an understanding of the tax revenues generated under each scenario, further analysis can be conducted to understand the direct impacts of this reduction in tax revenue for state and local governments.

First, direct state tax revenue impacts were considered. The revenues generated through severance tax, ad valorem tax, and the state's share of federal mineral royalties are a major source of funding for Wyoming, with a statewide total of \$2,738,958,387 in 2022.^{39,40} In 2022, these revenues made up 12.46% of the funding for the State General Fund, amounting to \$185,897,242.⁴¹ Focus is placed on the General Fund as it provides the bulk of direct funding to the State and is most impacted by severance tax revenue. However, there are several severance tax, ad valorem tax and federal mineral royalty revenue appropriations not described in detail. According to the Wyoming Legislative Service Office, these revenues also provided additional funding for State programs or funds, including, but not limited to:

- Permanent Wyoming Mineral Trust Fund: \$290,449,637
- Budget Reserve Account: \$545,656,560
- School Foundation Program: \$570,774,630

It should be noted that ad valorem tax is generally not a tax that benefits the State government in terms of direct funding. The only portion of ad valorem tax that would be considered funding for State government would be those revenues earmarked for the School Foundation Program, although ultimately these funds are allocated to benefit K-12 education and local school districts throughout the State. Regardless, ad valorem tax is still relevant to analyzing statewide revenue as it comprises a large portion of local government revenues.

³⁹ See *supra* note 26.

⁴⁰ This total is understated in terms of total revenue generated from these sources as only a portion of federal mineral royalties, approximately 50%, is allocated back to Wyoming.

⁴¹ See *supra* note 25.

Next, the numbers derived in the prior section for the tax revenue impacts are applied statewide, allowing for an analysis of what the statewide funding impacts will be under the RMP. Table 7 shows the State totals of each tax revenue under the RMP for each of the projected years in comparison to a baseline year which for this analysis is 2023.^{42, 43}

TABLE 7.

Total State Severance Tax, Ad Valorem Tax, and Federal Mineral Royalty Revenue Impacts based on Projections.

Tax Type	2023 Revenues	2025 with Impacts	% Change	2026 with Impacts	% Change
Severance Tax Revenue	\$997,313,084	\$995,693,748	-0.16%	\$994,207,680	-0.31%
Ad Valorem Tax Revenue	\$932,842,575	\$931,120,681	-0.18%	\$929,540,496	-0.35%
Federal Mineral Royalties - Total	\$1,740,433,240	\$1,737,059,624	-0.19%	\$1,733,963,649	-0.37%
Federal Mineral Royalties - State Share	\$870,216,620	\$868,529,812	-0.19%	\$866,981,824	-0.37%
Federal Mineral Royalties - Federal Share	\$870,216,620	\$868,529,812	-0.19%	\$866,981,824	-0.37%
Total Tax and Royalty Revenue	\$3,670,588,899	\$3,663,874,053	-0.18%	\$3,657,711,825	-0.35%
Total Tax and Royalty Revenue - State Only	\$2,800,372,279	\$2,795,344,241	-0.18%	\$2,790,730,001	-0.34%

Tax Type	2027 with Impacts	% Change	2028 with Impacts	% Change
Severance Tax Revenue	\$992,849,864	-0.45%	\$991,790,094	-0.55%
Ad Valorem Tax Revenue	\$928,096,685	-0.51%	\$926,969,795	-0.63%
Federal Mineral Royalties - Total	\$1,731,134,866	-0.53%	\$1,728,927,010	-0.66%
Federal Mineral Royalties - State Share	\$865,567,433	-0.53%	\$864,463,505	-0.66%
Federal Mineral Royalties - Federal Share	\$865,567,433	-0.53%	\$864,463,505	-0.66%
Total Tax and Royalty Revenue	\$3,652,081,415	-0.50%	\$3,647,686,899	-0.62%
Total Tax and Royalty Revenue - State Only	\$2,786,513,982	-0.49%	\$2,783,223,394	-0.61%

Notes: This analysis takes each year's projected tax revenue impacts from the RMP and compares them to 2023 total state revenues, showing 2023 state revenues with the impacts of each forecasted year. This allows for easy comparison between the forecasted years.

Next, we take a deeper look into local tax revenue impacts. Per Wyoming statute, so long as total state federal mineral royalty revenues amount to a minimum of \$200 million and total state severance tax revenues amount to a minimum of \$155 million, local governments will continue to be allocated their portions of federal mineral royalties and severance taxes.^{44, 45, 46} Any decrease in severance tax and federal mineral royalties beyond these amounts will simply decrease the amount of funding for the State funds to which they are to be appropriated. Importantly, the decrease in federal mineral royalty and severance tax revenues under the RMP are not forecasted to decrease total revenues below the \$200 million or \$155 million thresholds.

⁴² See *supra* note 26.

⁴³ *Natural Resource Revenue Data*, U.S. DEP'T OF THE INTERIOR (2024), <https://revenue.data.doi.gov/explore?dataType=Revenue&location=NF%2CNA&mapLevel=State&offshoreRegions=false&period=Calendar%20Year&year=2023>.

⁴⁴ See *supra* note 25.

⁴⁵ WYO. STAT. ANN. §39-14-801 (2024).

⁴⁶ WYO. STAT. ANN. §9-4-601 (2024).

Nonetheless, local governments are directly impacted by changes in ad valorem tax revenues. In Wyoming, property taxes, including ad valorem taxes, make up a majority of tax revenue for local government and provide the main funding for services such as K-12 education. Wyoming, being historically mineral revenue dependent, receives a majority of this tax revenue from the mineral industry. In 2022, 47% of all property tax collected within Wyoming was derived from mineral production.⁴⁷ In some cases, this is even more drastic on a county basis. For example, Sweetwater County, the county most affected by the RMP in terms of tax revenue, derived 61% of its total 2022 property tax collections from mineral production.⁴⁸ Hence, a significant decrease in a county's mineral production, can substantially impact funding for local government and the services provided therein, even when the statewide impacts are relatively modest.

To better understand the impact this has on local government, it is also important to consider the funding implications ad valorem tax revenue has on county governments within the counties that produce oil and natural gas within the planning area. Table 8 summarizes the total loss in ad valorem tax from the projected impacts of the RMP for each forecasted year, using 2023 data as the baseline for comparison.^{49, 50, 51}

TABLE 8.

County and City/Town Government Revenue Impacts for Each Forecasted Year

Local Ad Valorem Tax Impacts	2025	2026	2027	2028	Totals
County Government Impacts	\$485,808	\$931,636	\$1,338,987	\$1,656,923	\$4,413,354
% Change in County Revenue	-0.51%	-0.99%	-1.42%	-1.75%	
City/Town Government Impacts	\$215,915	\$414,060	\$595,105	\$736,410	\$1,961,490
% Change in City/Town Revenue	-0.51%	-0.99%	-1.42%	-1.75%	
	\$701,723	\$1,345,696	\$1,934,092	\$2,393,333	\$6,374,844

Notes: This table takes each forecasted year's projected county and city/town government tax revenue impacts from the RMP, with this analysis using 2023 total county and city/town government tax revenues as the baseline for comparison.

The next portion of this analysis focuses on the tax revenue impacts from estimated wind energy development impacts under the RMP.

⁴⁷ Wyoming Property Taxation 2023, WYOMING TAXPAYERS ASSOCIATION (2023), <https://wyotax.org/wp-content/uploads/2024/07/LANDSCAPE-Property-Tax-2023-FINAL-rev-7.9.24.pdf>.

⁴⁸ See *supra* note 31.

⁴⁹ 2023 Cost of County Government, WYOMING DEP'T OF AUDIT (2023), <https://audit.wyo.gov/public-funds/legislative-reports>.

⁵⁰ 2023 Cost of City Government, WYOMING DEP'T OF AUDIT (2023), <https://audit.wyo.gov/public-funds/legislative-reports>.

⁵¹ 2023 Cost of Town, WYOMING DEP'T OF AUDIT (2023), <https://audit.wyo.gov/public-funds/legislative-reports>.

The methodology utilized by Christelle Khalaf in the working paper titled “Measuring the Economic Impacts of Wind Projects in Wyoming” was used to determine the tax revenue generated under each scenario in this analysis. For the Wyoming wind generation tax, a \$1 tax is levied per megawatt hour (MWh) of electricity generated from wind.⁵² The Wyoming wind generation tax is appropriated to both state and local governments, with 40% allocated to the Wyoming General Fund and the remaining 60% being allocated to the county government where the wind generation is located.⁵³

Wind projects are also subject to Wyoming property tax based on the assessed valuations of the total development. For this analysis, each project was valued on a per megawatt of nameplate capacity basis, using the assumption that the value per megawatt of capacity was approximately \$1.3 million.⁵⁴ The 11.5% industrial property assessment rate was then applied to this valuation to get the assessed value of each scenario’s development. This assessed value was then multiplied by the 72.56 mills levied in Sweetwater County to get the annual property tax collections from each scenario.⁵⁵ Sweetwater County mills were used based on the assumption that a majority of wind development within the planning area would occur within the boundaries of Sweetwater County.

Finally, wind development is also subject to sales tax levied on a State and local level. The State sales tax rate is 4% while the local sales tax varies but is generally considered to be 2%.⁵⁶ This amounts to a total 6% sales tax rate that was used for this analysis. Usually, this tax is associated with the construction of the project, but for consistency of this analysis, an annualized approach was taken to determine the total annual tax revenue impacts of each scenario. Using the assumption that approximately \$1,800 in state and local sales tax is generated per MW of installed capacity from the construction of a wind project, representing the total 6% sales tax levied in the State, the estimated amount of sales tax generated from each scenario could be determined.⁵⁷

With the different taxes that are relevant to wind development in the State, Table 9 shows the annual tax revenue generated under each scenario of development detailed in Table 5.

⁵² Dean Temte, Senior Fiscal Analyst, *Taxation of Power Generation in Other States Memo to Joint Revenue Committee*, WYOMING LSO (Revised Jul. 5, 2019), <https://www.wyoleg.gov/InterimCommittee/2019/03-20190708July52019RevenueCommitteerevisedmemoelectricityproductiontaxes.pdf>.

⁵³ See *supra* note 24.

⁵⁴ Christelle Khalaf, *Measuring the Economic Impacts of Wind Projects in Wyoming*, UNIVERSITY OF WYOMING SCHOOL OF ENERGY RESOURCES, CENTER FOR ENERGY REGULATION & POLICY ANALYSIS, (Jul. 2022), <https://www.uwyo.edu/ser/research/centers-of-excellence/energy-regulation-policy/files/wind-energy-report.pdf>.

⁵⁵ See *supra* note 24.

⁵⁶ See *supra* note 24.

⁵⁷ See *supra* note 36.

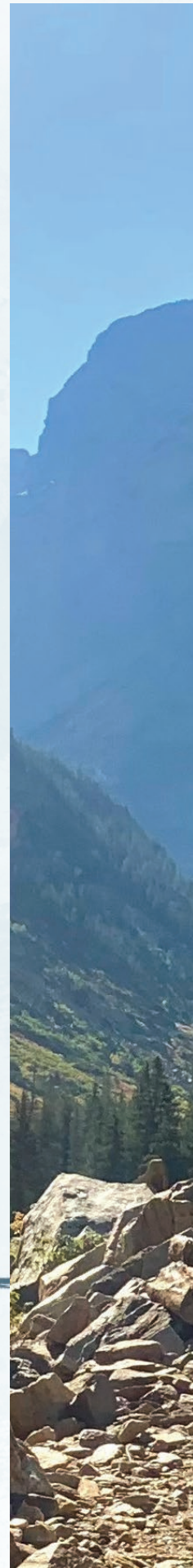


TABLE 9.

Annual Tax Revenue Impacts of Each Wind Development Scenario Under the RMP

Habitat Siting Level 1						
Designation	Installed Capacity (MW)	Annual Generation (MWh)	Wind Generation Tax	Property Tax	Sales Tax	Total Tax Revenue
Exclusion	13,629	46,565,918	\$46,565,918	\$148,265,670	\$24,532,909	\$219,364,497
Avoidance	46,395	158,900,250	\$158,900,250	\$504,716,836	\$83,513,413	\$747,130,499
Total	60,024	205,466,168	\$205,466,168	\$652,982,506	\$108,046,322	\$966,494,996

Habitat Siting Level 3						
Designation	Installed Capacity (MW)	Annual Generation (MWh)	Wind Generation Tax	Property Tax	Sales Tax	Total Tax Revenue
Exclusion	1,142	4,442,177	\$4,442,177	\$12,423,464	\$2,055,659	\$18,921,300
Avoidance	8,497	31,042,056	\$31,042,056	\$92,436,231	\$15,295,042	\$138,773,329
Total	9,639	35,484,233	\$35,484,233	\$104,859,695	\$17,350,701	\$157,694,629

The difference in tax revenue generated from wind development and electric generation between habitat siting level 1 and habitat siting level 3 are significant. On an annual basis, tax revenue generated under habitat siting 3 would result in a loss of more than \$800 million in potential tax revenues in comparison to habitat siting level 3 if maximum wind development in both scenarios is brought to fruition. This would directly impact state and local funding, including the State General Fund (from wind generation tax and sales tax), the School Foundation Program (from property tax), and county and local governments (from all taxes listed).^{58, 59}



⁵⁸ See *supra* note 24.

⁵⁹ See *supra* note 25.

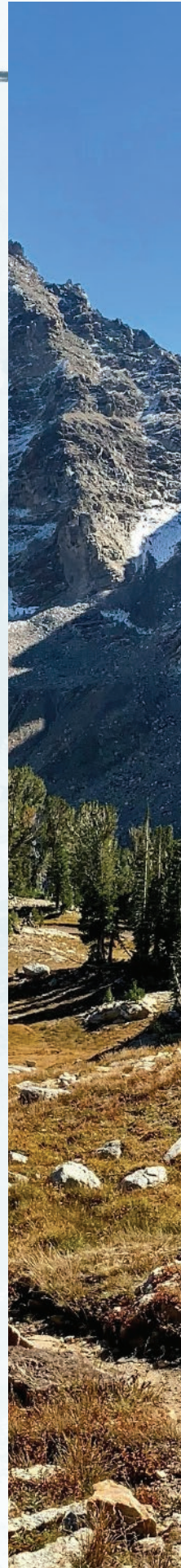
DISCUSSION

The foregoing analysis is by no means exhaustive in terms of the likely economic impacts of the RMP. Rather, we focus on providing examples of quantitative estimates of the impacts of the RMP in cases where the BLM's own analysis was especially deficient and where sufficient data are available to develop alternative estimates. Here, we briefly summarize a variety of other important considerations that do not lend themselves to specific quantifiable impacts but that are nonetheless important.

One such consideration is the development of critical carbon capture and storage infrastructure, another priority of the State of Wyoming. Frontier Carbon Solutions, LLC ("Frontier") is developing carbon storage sites in southwest Wyoming, including the Sweetwater Carbon Storage Hub (SCS Hub), which is located on the boundaries of Lincoln, Sweetwater, and Uinta Counties. The SCS Hub, Wyoming's most advanced carbon storage project, will cover approximately 11,400 acres of pore space, sequestering CO₂ from three Class VI wells recently approved by the Wyoming Department of Environmental Quality. In collaboration with the University of Wyoming's School of Energy Resources, Frontier received up to \$40.5 million in Department of Energy (DOE) CarbonSAFE funding to support the site characterization study and well construction as part of DOE's broader \$2.25 billion carbon storage initiative.

The RMP, particularly Management Action No. 6001, permits geologic carbon storage across the management area. However, the RMP includes a ten-mile-wide National Historic Trails Corridor, which could severely limit the ability of the SCS Hub to capture and transport CO₂ within the Rock Springs RMP area, where significant emission sources are located. Carbon capture and storage projects depend on a network of infrastructure to transport CO₂ from the point of capture to storage sites, and this restriction may pose significant challenges.

Potential impacts to the trona industry are another concern that is difficult to precisely quantify. As depicted in Figure 6, the RMP includes a 37% increase in the areas designated as closed to trona mining. The Wyoming Mining Association has voiced concerns over these closures, suggesting that they could impair future development plans. Providing an objective estimate of these impacts is difficult, however. Unlike oil and natural gas resources, which are widely distributed and can be tapped by many disparate wells, trona deposits and the associated mining operations are highly spatially concentrated and hence rare. The implication is that the data required to project potential trona impacts are necessarily proprietary. However, given the economic importance of the trona industry to Wyoming and the national strategic importance of trona as an input into a variety of critical technologies, these difficult to quantify impacts should not be overlooked.





CONCLUSION

The Rock Springs RMP consists of a substantial change in resource management and land use policies within the planning area with corresponding impacts on energy development and state and local tax revenues. While the BLM has attempted to balance conservation with development, the plan has brought on significant debate among various stakeholders due to potential impacts on industries within the region, predominantly related to energy development.

Economic concerns stem from the use of outdated development scenarios, increasingly stringent land use restrictions, and an increase in ACECs. Adding to this is the addition of restrictive ROW designations and an expansion in VRM classifications. All of these factors could limit the ability to facilitate development of oil and gas production as well as wind energy development among others. Furthermore, the RMP stands to have fiscal impacts as forecasted decreases in oil and gas production will ultimately lead to a decrease in severance tax, ad valorem tax and federal mineral royalty revenues derived within the planning area which help fund state and local governments. The forgone potential wind energy development under the above-mentioned development restrictions also represents a significant missed opportunity for further economic and tax base diversification in Wyoming.

This analysis highlights the need to craft a balanced and informed resource management plan for the planning area that accounts for the responsible development of industries and the mitigation of economic disruptions while also considering the conservation needs of the region. By aligning federal standards with state and local priorities, the resource management plan for the planning area could address necessary conservation goals without the need for Wyoming to sacrifice its role as a leader in energy production and resource management.



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