

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO**

CITIZENS CARING FOR THE FUTURE,
NEW MEXICO INTERFAITH POWER
AND LIGHT, CENTER FOR
BIOLOGICAL DIVERSITY, and
WILDEARTH GUARDIANS,

Plaintiffs,

v.

DEB HAALAND, in her official capacity as
U.S. Secretary of the Interior, and UNITED
STATES BUREAU OF LAND
MANAGEMENT;

Defendants.

Case No. 2:23-cv-60

PETITION FOR REVIEW OF
AGENCY ACTION

INTRODUCTION

1. Plaintiffs Citizens Caring for the Future (“CCFF”), New Mexico Interfaith Power and Light (“IPL”), Center for Biological Diversity (“the Center”), and WildEarth Guardians (“Guardians”) (collectively, “Conservation Groups”), pursuant to the Administrative Procedure Act (“APA”), 5 U.S.C. §§ 701–706, hereby bring this civil action for declaratory and injunctive relief against Deb Haaland and the United States Bureau of Land Management, (collectively “BLM”), for their authorization and issuance of 32 oil and gas leases covering 5,942.36 acres of land in New Mexico administered by the Bureau’s Carlsbad Field Office (“CFO”) in violation of the National Environmental Policy Act (“NEPA”), 42 U.S. C. §§ 4321–4370h, the Federal Land Policy and Management Act (“FLPMA”), 43 U.S.C. §§ 1701–1787 and their implementing regulations.

2. In furtherance of the Trump Administration’s reckless “energy dominance” agenda, BLM adopted policies in recent years to dramatically restrict public participation in its oil and gas leasing process, expediting oil and gas development despite its significant environmental and climate impacts. In its rush to sell off public lands for private oil and gas development in the waning days of the Administration, BLM hurried its environmental review process and ignored significant environmental impacts from development of the challenged oil and gas leases.

3. Despite stated policies purporting to take an “all of government” approach to addressing the urgent climate crisis, the Biden Administration then rubber-stamped the Trump Administration’s decision to hold the January 2021 lease sale, denying the protests of Conservation Groups and their members and unlawfully issuing the leases in question.

4. BLM’s issuance of the challenged leases confers the right to expand oil and gas development in the Greater Carlsbad region, threatening Carlsbad Caverns National Park and the surrounding area’s fragile karst terrain and cave systems, steep slopes, vital wildlife habitat, and already-deteriorating air quality. The reasonably foreseeable development of the leases – as described in the final CFO 2021 Environmental Assessment (“EA”) – include hydraulic fracturing (“fracking”) and drilling, and will lead to the emission of air pollutants and greenhouse gases that harm human health and the environment. In conferring rights that authorize the expansion of oil and gas development, BLM failed to acknowledge or analyze the serious environmental consequences of this decision, including potentially significant impacts to climate, air quality, human health, and water resources.

5. This lawsuit challenges BLM’s final agency actions which give rise to Conservation Groups’ claims. Conservation Groups specifically challenge BLM’s decisions related to its January 14, 2021 Carlsbad lease sale, which consisted of: (a) BLM’s decision to proceed with the January 14, 2021 lease sale on the basis of an inadequate Environmental Assessment (“EA”) and Finding of No Significant Impact (“FONSI”); (b) BLM’s denial of Conservation Groups’ November 19, 2020 Protests; and (c) BLM’s issuance of 32 lease parcels to Lessees on May 12, 2021. These decisions are collectively referred to as the “Leasing Authorizations.”

6. Table A, included at the bottom of the complaint, identifies the specific lease parcels to which the challenged Leasing Authorizations relate.

7. In authorizing and issuing the 32 lease parcels, BLM (1) failed to take a hard look at the direct and cumulative impacts of oil and gas leasing and development on the lease parcels, including impacts from greenhouse gas emissions and climate, from air pollutant emissions and human health, and to water resources; and (2) failed to provide a convincing statement of reasons to justify their decisions to forego an environmental impact statement (“EIS”).

JURISDICTION & VENUE

8. This action arises under NEPA, 42 U.S.C. §§ 4321–4370h, FLPMA, 43 U.S.C. § 1701–1787, and the Administrative Procedure Act (“APA”), 5 U.S.C. §§ 701–706.

9. Jurisdiction is proper in this Court pursuant to 28 U.S.C. § 1331 because the action raises a federal question. The Court has authority to issue the requested declaratory and injunctive relief pursuant to 28 U.S.C. §§ 2201, 2202, and 5 U.S.C. §§ 705, 706.

10. This action reflects an actual, present, and justiciable controversy between Conservation Groups and BLM within the meaning of the Declaratory Judgment Act, 28 U.S.C. § 2201.

11. The challenged agency actions are final and subject to judicial review pursuant to 5 U.S.C. §§ 702, 704, & 706.

12. Conservation Groups have exhausted any and all available and required administrative remedies.

13. Venue in this Court is proper pursuant to 28 U.S.C. § 1391(e). A substantial part of the events and omissions giving rise to this case occurred in BLM offices located in New Mexico, and this case involves public lands and environmental resources located in New Mexico. Plaintiff Conservation Groups are also both headquartered in New Mexico.

PARTIES

14. Plaintiff CITIZENS CARING FOR THE FUTURE (“CCFF”) is an unincorporated non-profit membership association based in southeastern New Mexico. CCFF’s mission is to bring together southeastern New Mexico community members who support protecting the air, water and public health and safety during the current oil and gas boom in the Permian. The organization seeks to find an informed and safe path to ensure protections for the local community in the face of the health, safety and environmental dangers posed by rapid oil and gas development in the Greater Carlsbad region of southeastern New Mexico.

15. CCFF and its members advocate for environmental protections such as strong methane regulations on a state and national level and produced water regulation to better protect communities in southeastern New Mexico and beyond. CCFF and its members have further been

leaders in calling for putting an end to new oil and gas leasing on public lands. CCFF's members love the Greater Carlsbad region where they live and want to bring the Permian into the national spotlight as a place full of opportunities for meaningful mitigation of emissions that will not only have a direct effect on their own health and wellbeing, but also on the health and wellbeing of the world over. CCFF works to bring together folks from all walks of life in order to create a world that is safe and livable for all human beings, but also for the generations to come.

16. Plaintiff NEW MEXICO INTERFAITH POWER AND LIGHT ("NM IPL") is a non-profit organization based in Albuquerque, New Mexico. It is one of 40 state affiliates of the Interfaith Power and Light National Office, which is headquartered in Oakland, California. NM IPL has members who live, work, worship, or recreate on public lands across New Mexico and on and near the drilling permits in New Mexico challenged herein. NM IPL works for climate justice by mobilizing faith communities, faith leaders and people of faith to reduce the cause and consequences of global climate change through religious inspiration, education, outreach, implementation of sustainable practices and advocating effective climate protection policies. NM IPL works in all areas of New Mexico and in the El Paso region, including the Permian Basin, where some faith leaders helped form and now work with the Permian-based group Citizens Caring for the Future. These faith leaders live with growing health and environmental concerns in their communities in Hobbs, Carlsbad and Jal, in the Permian Basin of southeast New Mexico, where oil and gas leasing and drilling is rampant. These concerns come from a moral and ethical care for God's creation and the religious mandate to take care of neighbors. People of faith and leaders who are NM IPL members in nearby Albuquerque, New Mexico and El Paso, Texas have visited and will continue to visit locations in the Permian Basin near Carlsbad, Loco Hills,

Hobbs, and Jal, New Mexico, where they have prayed for healing of polluted sites while breathing toxic air from oil and gas emissions. For NM IPL members, this oil and gas pollution violates sacred land, water and air and the right to a clean environment.

17. Plaintiff CENTER FOR BIOLOGICAL DIVERSITY (“the Center”) is a non-profit conservation organization headquartered in Tucson, Arizona, with offices in Washington, D.C., a number of states, and Mexico. The Center uses science, policy, and law to advocate for the conservation and recovery of species on the brink of extinction and the habitats they need to survive. The Center has and continues to advocate actively for increased protections for species and their habitats across the United States. The Center has more than 81,000 members and 1.7 million online members and activists. The Center’s board, staff, and members observe wildlife for recreation, scientific research, aesthetic pursuits, and spiritual renewal, including climate-imperiled species harmed by greenhouse gas emissions caused by oil and gas development on BLM lands, and recreate on public lands across the United States as well as public lands in New Mexico that will be affected by the oil and gas leases challenged herein. The Center brings this action on its own behalf and on behalf of its adversely affected members.

18. Plaintiff WILDEARTH GUARDIANS is a non-profit membership organization based in Santa Fe, New Mexico, with offices throughout the West. Guardians has more than 100,000 members and supporters, including members who live, work, or recreate in the Greater Carlsbad region, including on and near the lease parcels challenged herein. Guardians and its members are dedicated to protecting and restoring the wildlife, wild places, wild rivers and health of the American West. Towards this end, Guardians and its members work to replace

fossil fuels with clean, renewable energy in order to safeguard public health, the environment, and the Earth's climate.

19. Conservation Groups' members live, work, and recreate in the Greater Carlsbad region and are deeply concerned about the impacts of BLM's Leasing Authorizations at issue in this Complaint. Foreseeable development of the lease parcels will cause air pollution, noise pollution, aesthetic harm, and other negative impacts to the environment and to Conservation Groups' members. Conservation Groups' members will be exposed to elevated pollution levels, bothersome noise, noxious odors, and other harms that will impact their daily lives and recreational activities.

20. Conservation Groups' members regularly use and enjoy the wildlands, wildlife habitat, rivers, streams, and healthy environment on BLM and other public lands in New Mexico, including lands in and adjacent to the lease sale parcels that are the subject of this Complaint, as well as areas outside the lease parcels that are affected by development of the leases challenged herein. Conservation Groups' members regularly use public lands in the Greater Carlsbad region that are on, around, and within view of lands affected by the Leasing Authorizations challenged herein for hiking, fishing, hunting, camping, spelunking, photographing scenery and wildlife, wildlife viewing, stargazing, aesthetic enjoyment, spiritual contemplation, and engaging in other vocational, scientific, educational, and recreational activities. Conservation Groups' members derive recreational, inspirational, scientific, educational, and aesthetic benefit from their activities on lands covered by the leases that are the subject of the Leasing Authorizations challenged herein, and on lands that are around or within view of lands affected by the Leasing Authorizations challenged herein. The affected lands near the lease sale parcels include very

popular and iconic landscapes, including, but certainly not limited to, Carlsbad Caverns National Park, the Guadalupe Mountains, the Pecos River, the Rio Peñasco, and the Black River.

21. Conservation Groups' members intend to continue to use and enjoy BLM and other New Mexico public lands, wildlands, wildlife habitat, rivers, streams, and healthy environments, including lands affected by the Leasing Authorizations challenged herein, frequently and on an ongoing basis in the future, including in 2022, 2023, and subsequent years.

22. Conservation Groups' members' enjoyment of public lands in and adjacent to the leases challenged herein will be adversely affected and diminished as a result of BLM's leasing actions. Conservation Groups' members recreate on and adjacent to public lands that include the challenged lease sale parcels. The reasonably foreseeable development of these lease parcels will directly alter the natural state of public lands within the lease areas and throughout the surrounding region, produce harmful air pollution, create noise that will disrupt wildlife and recreational enjoyment and light pollution that will disrupt the aesthetic enjoyment of stargazing under New Mexico's dark skies, as well as lead to connected development that will further adversely impact nearby public and private lands, including road construction, truck traffic, and the construction of oil and gas pipelines and processing facilities needed to sustain the production of oil and gas on the lease parcels that are the subject of this lawsuit.

23. Ozone pollution is a well-established threat to human health, and such pollution in the Greater Carlsbad Region threatens the health and well-being of Conservation Groups' members who live, work, or recreate in the region. Monitored ozone levels in the Greater Carlsbad Region regularly exceed federal health-based standards, and oil and gas development on the leased parcels will generate additional emissions of ozone precursor pollutants, including

volatile organic compounds (“VOCs”) and nitrogen oxides (“NOx”), further contributing to the area’s ozone pollution problem. Conservation Groups’ members are reasonably concerned that BLM’s Leasing Authorizations will exacerbate such ozone pollution and its concomitant threats to their health and well-being.

24. As the primary component of smog, ozone pollution also impairs visibility. Accordingly, Conservation Groups’ members’ aesthetic and recreational interests are also negatively impacted by ozone pollution in the Greater Carlsbad Region, which impairs iconic views, including views from Carlsbad Caverns National Park and views of the Guadalupe Mountains. Such negative impacts will be exacerbated by the Leasing Authorizations, which will further contribute to the area’s ozone pollution problem, decreasing members’ enjoyment of outdoor recreational activities, such as hiking, wildlife viewing, and camping..

25. Conservation Groups and their members also have a procedural interest in BLM’s full compliance with NEPA’s and FLPMA’s planning and decisionmaking processes for the challenged Leasing Authorizations, and BLM’s attendant duty to substantiate their decisions in the record for the challenged lease sales.

26. Conservation Groups and their members have participated in BLM’s oil and gas leasing decisions challenged in this action, including by submitting comments on draft NEPA documents, and administrative protests of the BLM’s challenged decisions. Conservation Groups have exhausted all legally required administrative remedies before bringing this action.

27. The aesthetic, recreational, scientific, educational, religious, health, and procedural interests of Conservation Groups and their members have been adversely affected and irreparably injured by the process that led to BLM’s decisions to authorize the sale of the 32

lease parcels, and by the Leasing Authorizations which now restrict BLM's ability to prevent oil and gas development on the leased parcels. These are actual, concrete injuries caused by BLM's failure to comply with mandatory duties under NEPA and FLPMA.

28. A favorable ruling in this case would redress the harms that Conservation Groups and their members stand to suffer as a result of BLM's actions. If BLM properly considered the negative impacts of their actions on climate, air quality, and water resources, they might reach a different decision and not offer many of the leases for sale and issuance. This would reduce and/or eliminate the threat of reasonably foreseeable oil and gas development, preventing the diminishment of the enjoyment of public lands used by Conservation Groups' members. A favorable ruling would ensure that as Conservation Groups' members continue to live, work, and enjoy public lands affected by BLM's actions, their harms would be reduced, if not eliminated. At the very least, a favorable ruling may delay development of oil and gas infrastructure on the leased parcels until BLM has taken a hard look and fully disclosed the direct, indirect, and cumulative climate impacts of their oil and gas Leasing Authorizations, as required by law.

29. Defendant DEB HAALAND, sued in her official capacity as the Secretary of the United States Department of the Interior, is responsible for managing the public lands and resources in New Mexico and, in that official capacity, is responsible for implementing and complying with federal law, including the federal laws implicated by this action.

30. Defendant UNITED STATES BUREAU OF LAND MANAGEMENT, an agency within the United States Department of the Interior, is responsible for managing public lands and resources in New Mexico, including federal onshore oil and gas resources and associated leasing

program. In this managerial capacity, the Bureau is responsible for implementing and complying with federal law, including the federal laws implicated by this action.

LEGAL BACKGROUND

I. National Environmental Policy Act

31. NEPA is our “basic national charter for the protection of the environment.” 40 C.F.R. § 1500.1.¹ It was enacted—recognizing that “each person should enjoy a healthful environment”—to ensure that the federal government uses all practicable means to “assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings,” and to “attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences,” among other policies. 42 U.S.C. § 4331(b).

32. NEPA regulations explain, in 40 C.F.R. §1500.1(c), that:

Ultimately, of course, it is not better documents but better decisions that count. NEPA’s purpose is not to generate paperwork – even excellent paperwork – but to foster excellent action. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.

33. NEPA achieves its purpose through “action forcing procedures . . . requir[ing] that agencies take a *hard look* at environmental consequences.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) (citations omitted) (emphasis added).

¹ References to the White House Council of Environmental Quality NEPA Implementing Regulations, 40 C.F.R. §§ 1500 *et seq.*, throughout this Complaint are to the regulations in effect prior to September 14, 2020. The revised CEQ regulations effective as of September 14, 2020, are not referred to in this Complaint because the NEPA process associated with the January 2021 lease sale began prior to this date and BLM applied the pre-September 14, 2020 regulations in evaluating the January 2021 lease sale.

34. “Agencies shall integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts.” 40 C.F.R. § 1501.2.

35. Federal agencies must comply with NEPA before there are “any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.” 42 U.S.C. § 4332(2)(C)(v); *accord* 40 C.F.R. §§ 1501.2, 1502.5(a). “[I]ssuing an oil and gas lease without a [No Surface Occupancy] stipulation” constitutes such an “irretrievable commitment of resources.” *New Mexico ex rel. Richardson v. Bureau of Land Mgmt.*, 565 F.3d 683, 718 (10th Cir. 2009). Moreover, “the leasing stage is the point of no return with respect to GHG emissions.” *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 66 (D.D.C. 2019). Thus, BLM is required to fully analyze all reasonably foreseeable impacts of leasing, including reasonably foreseeable impacts to GHG emissions, air quality, water quality, and other environmental resources at the leasing stage. *Id.*

36. NEPA requires BLM to consider “any adverse environmental effects which cannot be avoided.” 42 U.S.C. § 4332(C)(ii). In so doing, BLM must “identify and develop methods and procedures . . . which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations.” *Id.* § 4332(B).

37. To accomplish these purposes, NEPA requires that all federal agencies prepare a “detailed statement” regarding all “major federal actions significantly affecting the quality of the human environment.” *Id.* § 4332(C). This statement, known as an Environmental Impact Statement (“EIS”), must, among other things, rigorously explore and objectively evaluate all

reasonable alternatives, analyze all direct, indirect, and cumulative environmental effects, and include a discussion of the means to mitigate adverse environmental impacts. *Id.* §§ 1502.14 and 1502.16.

38. Direct effects include those that “are caused by the action and occur at the same time and place.” *Id.* § 1508.8(a). Indirect effects include effects that “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 are “the impact on the environment which results 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.” *Id.* § 1508.7. “Effects” are synonymous with “impacts.” *Id.* § 1508.8.

39. These effects include “ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative” effects. *Id.* § 1508.8.

40. BLM’s analysis must do more than merely identify impacts; it must also “evaluate the severity” of effects. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989); 40 C.F.R. § 1502.16(a)–(b) (recognizing that agency must explain the “significance” of effects).

41. An agency may also prepare an Environmental Assessment (“EA”) to determine whether an EIS is necessary. 40 C.F.R. §§ 1501.3, 1508.9. An EA must include a discussion of alternatives and take a hard look at the environmental impacts of the action. *Id.* § 1508.9.

42. If an agency decides not to prepare an EIS, an EA must “provide sufficient evidence” to support a Finding of No Significant Impact (“FONSI”). *Id.* § 1508.9(a)(1). Such evidence must demonstrate that the action “will not have a significant effect on the human

environment[.]” *Id.* § 1508.13. An assessment of whether or not an impact is “significant” is based on a consideration of the “context and intensity” of the impact. *Id.* § 1508.27. “Context” refers to the scope of the proposed action, including the interests affected. *Id.* § 1508.27(a). “Intensity” refers to the severity of the impact and must be evaluated with a host of factors in mind, including but not limited to “[u]nique characteristics of the geographic area[.]” “[t]he degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks[.]” “[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts[.]” and “[w]hether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.” *Id.* § 1508.27(b). “Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts” *Id.*

43. NEPA requires BLM to consider “any adverse environmental effects which cannot be avoided.” 42 U.S.C. § 4332(2)(C)(ii).

44. If an agency does find that its major action significantly affects the human environment, NEPA requires the agency to prepare an EIS. *See* 42 U.S.C. § 4332(C).

45. In certain circumstances, NEPA allows an agency to “tier” a site-specific environmental analysis for a project to a broader EIS for a program or plan under which the subsequent project is carried out. *Id.* § 1508.28. When an agency tiers a site-specific analysis to a broader EIS, “the subsequent statement or environmental assessment need only summarize the issues discussed in the broader statement and incorporate discussions from the broader statement by reference and shall concentrate on the issues specific to the subsequent action.” *Id.* § 1502.20.

46. Department of Interior’s NEPA regulations for using tiered documents specify that site-specific EAs “can be tiered to a programmatic or other broader-scope [EIS].” 43 C.F.R. § 46.140(c). However, tiering a site-specific EA to another NEPA document is only appropriate where “the conditions and environmental effects described in the broader NEPA document are still valid” or the site-specific EA addresses any exceptions. *Id.* § 46.140. If the programmatic EIS sufficiently analyzes the impacts of the site-specific action, the agency is not required to perform additional analysis of impacts. *Id.* § 46.140(a). However, if the impacts analysis in the programmatic EIS “is not sufficiently comprehensive or adequate to support further decisions,” the agency’s EA must explain this and provide additional analysis. *Id.* § 46.140(b).

47. Fundamental to NEPA is its public participation function: it “guarantees that the relevant information will be made to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

48. NEPA regulations mandate that agencies “shall to the fullest extent possible . . . [e]ncourage and facilitate public involvement in the decisions which affect the quality of the human environment.” 40 C.F.R. § 1500.2(d). Indeed, “NEPA procedures must insure that environmental information is available to public officials and citizens *before decisions are made and before actions are taken* Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.” *Id.* § 1500.1(b) (emphasis added).

49. NEPA and implementing CEQ regulations specifically require federal agencies to involve the public in preparing and considering environmental documents that implement the Act. *Id.* § 1506.6; *id.* § 1506.6(b)(1) (requiring federal agencies to “[p]rovide public notice of

NEPA-related hearings, public meetings, and the availability of environmental documents so as to inform those persons and agencies who may be interested or affected”); *id.* § 1506.6(a) (requiring agencies to “make diligent efforts to involve the public in preparing and implementing their NEPA procedures”); *id.* § 1501.4(b) (requiring agencies to “involve . . . the public, to the extent practicable, in preparing [EAs]”); *id.* § 1502.19(a) (requiring public circulation of draft and final EISs).

II. The Federal Land Policy and Management Act (“FLPMA”)

50. Enacted in 1976, FLPMA governs BLM’s management of the public lands. *See* 43 U.S.C. §§ 1701–1787. In FLPMA, Congress directed that public lands:

be managed in a manner that will protect the quality of the scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use.

43 U.S.C. § 1701(a)(8). This substantive mandate requires that BLM not elevate the development of oil and gas resources above other critical resource values in the planning area. To the contrary, FLPMA requires that where oil and gas development would threaten the quality of critical resources, conservation of these resources should be the preeminent goal.

51. To accomplish the above goals, FLPMA requires that land use plans—called Resource Management Plans (“RMPs”) for BLM lands—be developed with public input, and followed in managing the public lands. 43 U.S.C. § 1712(a) (Secretary “shall, with public involvement and consistent with the terms and conditions of this Act, develop, maintain, and, when appropriate, revise land use plans which provide by tracts or areas for the use of the public

lands”); *id.* § 1732(a) (Secretary “shall manage the public lands . . . in accordance with the land use plans”).

52. FLPMA specifically requires BLM to “provide for compliance with applicable pollution control laws, including State and Federal air . . . standards.” *Id.* § 1712(c)(8).

53. When issuing oil and gas leases, BLM has an obligation to ensure that its decisions conform to the applicable RMP. FLPMA requires that “[t]he Secretary shall manage the public lands . . . in accordance with the land use plans” developed under § 1712. 43 U.S.C. § 1732(a). “All future resource management authorizations and actions . . . shall conform to the approved plan.” 43 C.F.R. § 1610.5-3(a).

54. The Carlsbad RMP provides that “[a]ll activities will comply with applicable state and Federal air quality laws and regulations.” 1998 Carlsbad RMP at 2–11.

III. Legal Framework for Federal Oil and Gas Lease Authorizations

A. Mineral Leasing Act

55. Under the Mineral Leasing Act (“MLA”), as amended, the Secretary of the Interior is responsible for managing and overseeing mineral development on public lands, not only to ensure safe and fair development of the mineral resource, but also for “the safeguarding of the public welfare.” 30 U.S.C. § 187.

56. The Secretary has certain discretion, constrained by the laws at issue in this case, to determine where, when, and under what terms and conditions mineral development should occur. 43 C.F.R. § 3101.1-2.

57. BLM regulations implementing the MLA provide that oil and gas “[l]ease sales shall be conducted by a competitive oral or internet-based bidding process.” *Id.* § 3120.1-2.

58. Not all of the parcels offered for sale in any given BLM lease sale are necessarily awarded through competitive bidding. Parcels offered but not sold at auction are made available for private sale for two years after the competitive lease sale. 30 U.S.C. § 226(b)(1)(A).

59. BLM regulations also state that “[t]he authorized officer may suspend the offering of a specific parcel while considering a protest or appeal against its inclusion in a Notice of Competitive Lease Sale.” 43 C.F.R. § 3120.1-3.

B. BLM’s Oil and Gas Planning and Management

60. BLM manages onshore oil and gas development through a three-phase process. Each phase is distinct, serves distinct purposes, and is subject to distinct rules, policies, and procedures.

61. In the first phase, BLM prepares an RMP in accordance with 43 C.F.R. §§ 1600 *et seq.*, along with additional guidance found in BLM’s Land Use Planning Handbook (H-1601-1). An RMP projects the present and future use of public lands and their resources by establishing management priorities, as well as guiding and constraining BLM’s implementation-stage management. With respect to fluid minerals leasing decisions, the RMP determines which lands containing federal minerals will be open to leasing and under what general conditions. BLM’s determinations are to be based on a hard look analysis of the direct, indirect, and cumulative impacts to the human environment of predicated implementation-stage development in the RMP’s corresponding EIS.

62. Along with the RMP, BLM generally develops a reasonably foreseeable development scenario (“RFDS”) outlining the projected pace and scope of oil and gas development within the RMP planning area. A RFDS does not include any analysis of

environmental impacts and is not a NEPA document.

63. In the second phase, oil and gas companies typically nominate leaseholds for sale through the submission of an “Expression of Interest.” *See* 43 C.F.R. § 3120.1-1 (providing that “lands included in any expression of interest . . . shall be offered for competitive bidding.”). BLM then assesses whether these lands are available, identifies the boundaries for lands to be offered for lease, and proceeds to offer those lands through a lease sale. Leases are sold in accordance with 43 C.F.R. §§ 3120 *et seq.*, and agency guidance, including the public participation provisions of the since-superseded BLM Instruction Memorandum (“IM”) 2018-034, which BLM followed for the challenged lease sale.

64. The BLM state offices generally oversee the lease sales, while the BLM field offices where specific lease parcels are located conduct NEPA review, solicit public comment, and apply appropriate site-specific leasing stipulations.

65. BLM regulations allow for the public to protest the sale of specific parcels. 43 C.F.R. § 3120.1-3. Although BLM may proceed with a lease sale after a protest has been filed, BLM must resolve any and all protests received prior to issuing a lease parcel to a successful bidder. BLM Competitive Leases Handbook H-3120-1, Section II.G. (“Every effort must be made to decide the protest prior to the sale.”); IM 2018-034 (“State offices should attempt to resolve protests in a signed decision before the sale of the protested parcels.”). Under the provisions of IM 2010-117, BLM previously allowed for the authorized officer to suspend the offering of specific parcels pending resolution of an applicable protest in accordance with BLM regulations, *id.* § 3120.1-3, but IM 2018-034 mandated that the sale of parcels with pending protests proceed without delay. BLM must, however, resolve any and all protests received prior

to issuing a lease parcel to a successful bidder.

66. NEPA regulations mandate that agencies “shall to the fullest extent possible . . . [e]ncourage and facilitate public involvement in the decisions which affect the quality of the human environment.” 40 C.F.R. § 1500.2(d). Agencies, including BLM, are required to involve the public in preparing EAs “to the extent practicable.” 40 C.F.R. § 1501.4(b). BLM regulations also require public participation during oil and gas lease sales. *See* 40 C.F.R. § 3120.1-3 (requiring a protest period), § 3120.4-1 (requiring notice of a competitive lease sale.).

67. Prior to the point BLM sells a lease, BLM may refuse to lease public lands, even if public lands were made available for leasing pursuant to the RMP. *Udall v. Tallman*, 380 U.S. 1, 4 (1965).

68. Prior to a BLM lease sale, BLM has the authority to subject leases to terms and conditions, which can serve as “stipulations” to protect the environment. 43 C.F.R. § 3101.1-3. Once BLM issues leases, however, it may not retroactively impose lease stipulations. Instead, BLM may only impose conditions of approval (“COAs”) that are delimited by the terms and conditions of the lease. *Id.* § 3101.1-2.

69. Once sold, the lease purchaser has the right to use as much of the leased land as is necessary to explore and drill oil and gas within the lease boundaries, subject to stipulations attached to the lease. *Id.*

70. The Secretary of the Interior has the authority to cancel leases that have been “improperly issued.” *Id.* § 3108.3(d). A lease may be canceled where BLM has not complied with NEPA prior to lease issuance. *Clayton W. Williams, Jr. Exxon Corp.*, 103 IBLA 192 (1988).

71. The third-phase occurs once BLM issues a lease. In order to develop the minerals, the lessee is required to submit an application for permit to drill (“APD”) to BLM prior to drilling. 43 C.F.R. § 3162.3-1(c). At this stage, BLM may condition the approval of the APD on the lessees’ adoption of “reasonable measures” whose scope is delimited by the lease and the lessees’ surface use rights. *Id.* § 3101.1-2.

72. Oil and gas operations are required to be conducted in accordance with BLM regulations at 43 C.F.R. §§ 3160 *et seq.*

IV. Administrative Procedure Act

73. The APA provides a right to judicial review for any “person suffering legal wrong because of agency action.” 5 U.S.C. § 702. Actions that are reviewable under the APA include final agency actions “for which there is no other adequate remedy in a court.” 5 U.S.C. § 704.

74. Under the APA, a reviewing court shall “hold unlawful and set aside agency action . . . found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” *Id.* § 706(2)(A). A court must also compel agency action unlawfully withheld or unreasonably delayed. *Id.* § 706(1).

FACTUAL BACKGROUND

I. The Challenged BLM Final Agency Actions

A. BLM’s January 14, 2021 Competitive Oil and Gas Lease Sale

75. On July 20, 2020, BLM released a list of 32 nominated parcels in New Mexico for inclusion in the January 2021 oil and gas lease sale. BLM then initiated an 11-day public scoping period.

76. On September 14, 2020, BLM released a “draft” EA and unsigned FONSI for

public review and comment and initiated an 11-day public comment period. The draft EA indicated that 32 parcels had been nominated for the January 2022 oil and gas lease sale, and included a “proposed action” that would lease all 32 of those parcels, covering 5,942.36 acres.

77. On September 25, 2020, Conservation Groups’ timely submitted comments to BLM on the draft EA for the January 2021 lease sale.

78. On November 9, 2020, BLM released a lease sale notice, “final” EA, and unsigned FONSI, initiating a 10-day administrative protest period for the January 2021 lease sale.

79. The final EA included a “proposed action” wherein 32 parcels, located in BLM’s Carlsbad Field Office and covering 5,942.36 acres, were included in the January 2021 lease sale.

80. On or before November 19, 2020, Conservation Groups timely filed administrative protests of BLM’s lease authorizations for the January 2021 lease sale, objecting to the inclusion of all 32 of the parcels in BLM’s Carlsbad Field Office.

81. On January 14, 2021, BLM held the competitive oil and gas lease sale for 32 parcels on public lands administered by the CFO, totaling 5,942.36 acres of BLM-administered federal mineral estate. All 32 parcels were sold.

82. On January 29, 2021, BLM denied Conservation Groups’ Protests of the lease authorizations and issued its Decision Record and signed FONSI for the January 2021 lease sale.

83. On May 12, 2021, BLM issued 31 of the 32 leases to Lessees.

II. Cumulative Greenhouse Gas Emissions and Climate Change Impacts

A. The Climate Crisis

84. The scientific consensus is clear: as a result of greenhouse gas (“GHG”) emissions, our climate is rapidly destabilizing with potentially catastrophic results, including rising seas, more extreme heatwaves, increased drought and flooding, larger and more devastating wildfires and hurricanes, and other destructive changes. It is now conclusively established that GHG emissions from the production and combustion of fossil fuels are the predominant drivers of climate change.

85. Carbon dioxide (“CO₂”) is the leading cause of climate change and the most emitted greenhouse gas in the United States. According to a 2018 EPA report, *Inventory of U.S. Greenhouse Gas Emissions and Sinks, 1990-2016*, carbon dioxide comprised 82 percent of total U.S. greenhouse gas emissions, or 5.3 billion metric tons. EPA’s data indicates that fossil fuel combustion accounted for 93.5 percent of carbon dioxide emissions within the U.S. in 2016.

86. Methane is an extremely potent GHG, with a global warming potential 87 times that of CO₂ over a 20-year period. Over a 100-year period, methane has a climate impact 28 to 36 times greater than that of CO₂ on a ton-for-ton basis. Large amounts of methane are released during the extraction, processing, transportation, and delivery of oil and gas, with significant climate impacts. Future oil and gas development on the challenged leases has the potential to significantly increase methane emissions in BLM’s Carlsbad Field Office, and more generally in the Greater Carlsbad region’s Permian Basin.

87. 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 a 2022 report, the IPCC confirmed that climate change is not simply a future threat, but that “[w]idespread, pervasive impacts to ecosystems, people, settlements, and infrastructure” are already being seen globally, and “[t]he rise in weather and climate extremes has led to some irreversible impacts as natural and human systems are pushed beyond their ability to adapt.”

88. The western U.S. is particularly susceptible to the effects of climate change. The West is already experiencing increasing temperatures and prolonged droughts, with widespread impacts across our forests, wildlife, and human communities and threatening the West’s resilience in the face of continued warming. Local economies, which are reliant on consistent precipitation and snowfall for surface and groundwater recharge, agriculture, recreation, and other uses, have also seen significant impacts.

89. According to the Third and Fourth National Climate Assessments, increased warming, drought, and insect outbreaks, all caused by or linked to climate change, have exacerbated wildfires and impacts to people and ecosystems in the Southwest.

90. Future projections for the West are even more alarming, particularly in the Southwest, where climate change threatens to lead to “to aridification (a potentially permanent change to a drier environment) . . . through increased evapotranspiration, lower soil moisture, reduced snow cover, earlier and slower snowmelt, and changes in the timing and efficiency of snowmelt and runoff.” Climate change-related drought has already had massive impacts on food production and the agricultural economy of rural areas in the Southwest, and poses a long-term threat to regional food security.

91. The Fourth National Climate Assessment, released in 2018, notes that temperatures have already “increased across almost all of the Southwest region from 1901 to 2016,” magnifying the impacts of drought and wildfire. For example, hotter temperatures have already contributed to reductions in snowpack, amplifying drought conditions in the Colorado River Basin, the Rio Grande, and other critical watersheds. It is also estimated that the area burned by wildfire across the western United States between 1984 and 2015 was twice what would have burned had climate change not occurred.

92. In October 2018, the IPCC issued a special report that examined, in more depth, the impacts of global warming of 1.5°C above pre-industrial levels as compared to 2.0°C. The IPCC’s findings included:

- Human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C. Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate.
- Warming from anthropogenic emissions from the pre-industrial period to the present will persist for centuries to millennia and will continue to cause further long-term changes in the climate system, such as sea level rise, with associated impacts but these emissions alone are unlikely to cause global warming of 1.5°C.
- Climate-related risks to health, livelihoods, food security, water supply, human security, and economic growth are projected to increase with global warming of 1.5°C and increase further with 2°C. Limiting warming to 1.5C could reduce the number of people both exposed to climate-related risks and susceptible to poverty by up to several hundred million by 2050 (medium confidence).
- Pathways limiting global warming to 1.5°C with no or limited overshoot would require rapid and far-reaching transitions in energy, land, urban and infrastructure (including transport and buildings), and industrial systems (high confidence). These systems transitions are unprecedented in terms of scale, but not necessarily in terms of speed, and imply deep emissions reductions in all sectors, a wide portfolio of mitigation options and a significant upscaling of investments in those options (medium confidence).

B. Federal Climate Policy

93. In 2001, at the start of the George W. Bush Administration, the Secretary of the Interior established Interior policy in Secretarial Order 3226, stating: “There is a consensus in the international community that global climate change is occurring and that it should be addressed in governmental decision making.” Secretarial Order 3226 established the responsibility of Interior agencies, such as BLM, to “consider and analyze potential climate change impacts when undertaking long-range planning exercises, when setting priorities for scientific research and investigations, when developing multi-year management plans, and/or when making major decisions regarding potential utilization of resources under the Department’s purview.”

94. In a 2007 report entitled *Climate Change: Agencies Should Develop Guidance for Addressing the Effects on Federal Land and Water Resources*, the U.S. Governmental Accountability Office concluded that the Department of the Interior had not provided specific guidance to implement Secretarial Order 3226, that officials were not even aware of Secretarial Order 3226, and that Secretarial Order 3226 had effectively been ignored.

95. Secretarial Order 3289 reinstated the provisions of Order 3226, and recognized that “the realities of climate change require us to change how we manage the land, water, fish and wildlife, and cultural heritage and tribal lands and resources we oversee,” and acknowledged that Interior is “responsible for helping protect the nation from the impacts of climate change.”

96. In Executive Order No. 13514, Federal Leadership in Environmental, Energy, and Economic Performance (Oct. 5, 2009), President Obama called on all federal agencies to “measure, report, and reduce their GHG emissions from direct and indirect activities.” 74 Fed. Reg. 52,117 (Oct. 8, 2009) (revoked by Executive Order No. 13693, revoked by Executive Order

No. 13834). This directive was followed up by Executive Order No. 13693, Planning for Federal Sustainability in the Next Decade (March 25, 2015), which reaffirmed the federal government’s commitment to reducing GHG emissions. 80 Fed. Reg. 15,871 (March 25, 2015).

97. In 2009, the Environmental Protection Agency (“EPA”) issued a formal finding under the Clean Air Act, 42 U.S.C. § 7521(a), that the changes in our climate caused by elevated concentrations of greenhouse gases in the atmosphere are reasonably anticipated to endanger the public health and welfare of current and future generations. 74 Fed. Reg. 66,496 (Dec. 15, 2009). EPA concluded that “the body of scientific evidence compellingly supports” the finding and recognized the potential human-induced climate change to have “far-reaching and multidimensional” impacts. *Id.* at 66,497. In 2015, EPA acknowledged more recent scientific assessments that “highlight the urgency of addressing the rising concentrations of CO₂ in the atmosphere.” 80 Fed. Reg. 64,661 (Oct. 23, 2015). The D.C. Circuit upheld this decision as supported by the vast body of scientific evidence on the subject. *See Coal. for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102, 120-22 (D.C. Cir. 2012).

98. The White House Council on Environmental Quality (“CEQ”) has also recognized the unique nature of climate change and the challenges it imposes on NEPA compliance. On August 1, 2016, CEQ released *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* (hereafter, “2016 Climate Guidance”) (under review for revision and update, 86 Fed. Reg. 10252 (February 19, 2021)).² Applicable to all proposed

² As the 2016 Climate Guidance is being reviewed, CEQ directed all federal agencies to “consider all available tools and resources in assessing GHG emissions and climate change

federal agency actions, “including land and resource management actions,” *id.* at 9, the 2016

Climate Guidance recognized that:

Climate change results from the incremental addition of GHG emissions from millions of individual sources, which collectively have a large impact on a global scale. CEQ recognizes that the totality of climate change impacts is not attributable to any single action, but are exacerbated by a series of actions including actions taken pursuant to decisions of the Federal Government. *Therefore, a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the 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.* Moreover, these comparisons are also not an appropriate method for characterizing the potential impacts associated with a proposed action and its alternatives and mitigations because this approach does not reveal anything beyond the nature of the climate change challenge itself: the fact that diverse individual sources of emissions each make a relatively small addition to global atmospheric GHG concentrations that collectively have a large impact.

Id. at 10–11 (emphasis added).

99. The 2016 Guidance also stated that “[i]n the context of long-range energy, transportation, and resource management strategies . . . it would be useful and efficient to provide an aggregate analysis of GHG emissions or climate change effects in a programmatic analysis and then incorporate by reference that analysis into future NEPA reviews.” In particular, CEQ identifies “issuing leases for oil and gas drilling” as a “site-specific action[] that may benefit from being able to tier to a programmatic NEPA review.”

100. The Trump Administration withdrew the 2016 Climate Guidance, but this did not alter BLM’s obligation under NEPA to take a hard look and fully assess the significance, context, and severity of the GHG emissions climate impacts of its oil and gas leasing decisions.

effects of their proposed actions, include, as appropriate and relevant, the 2016 GHG Guidance.” 86 Fed. Reg. 10252 (February 19, 2021)

See San Juan Citizens All. v. Bureau of Land Mgmt., 326 F. Supp. 3d 1227, 1243 (D.N.M. 2018). BLM has also refused to avail itself to readily-available, scientifically-accepted tools, such as the social cost of carbon and carbon budgeting, for evaluating the severity, context, and significance of GHG emissions and climate impacts.

101. In 2021, the Biden Administration directed all federal agencies to “consider all available tools and resources in assessing GHG emissions and climate change effects of their proposed actions, include, as appropriate and relevant, the 2016 GHG Guidance.” 86 Fed. Reg. 10252 (February 21, 2021).

102. Moreover, in Executive Order 14008, President Biden acknowledged that “[t]he scientific community has made clear that the scale and speed of necessary [to address climate change] is greater than previously believed. There is little time left to avoid setting the world on a dangerous, potentially catastrophic, climate trajectory. Responding to the climate crisis will require both significant short-term global reduction in greenhouse gas emissions and net-zero emission by mid-century or before.”

C. Cumulative GHG Emissions from the BLM Fossil Fuel Program

103. BLM is responsible for the management of nearly 700 million acres of federal onshore subsurface minerals. Based on 2012 figures, the ultimate downstream GHG emissions from fossil fuel extraction from federal lands and waters by private leaseholders accounts for approximately 21% of total U.S. GHG emissions and 24% of all energy-related GHG emissions.³

³ Stratus Consulting, *Greenhouse Gas Emissions from Fossil Fuel Energy Extracted from Federal Lands and Waters: An Update* at 10 (2014), available at: <http://riggingthesystem.org/wp-content/uploads/2017/07/Stratus-Report.pdf>.

104. In spite of the worsening climate crisis, BLM continues to authorize the sale and issuance of hundreds of new federal oil and gas leases and subsequently approve thousands of new APDs on public lands across the Interior West without meaningfully acknowledging or fully evaluating the climate change implications of its actions.

105. As of October 2020, BLM-managed lands contained 37,496 individual oil and gas lease parcels, covering over 26.6 million acres of public lands, on which 96,110 active producible wells are drilled. The area already leased for oil and gas extraction covers an area nearly as large as all federal lands combined in the State of New Mexico (27.5 million acres), and would cover more than 35% of the entire State of New Mexico.

106. BLM's Fossil Fuel Program already contributes vast amounts of GHGs into the atmosphere, posing a threat to climate, the natural environment, and public health. According to a 2018 report from the U.S. Geological Survey ("USGS"), fossil fuel development on federal lands in 2014 released 1.279 GtCO₂ emissions, or 23.7% of the nation's CO₂ emissions.⁴ Based on EPA data, this is the equivalent of annual GHG emissions from over 329 coal-fired power plants.

107. New Mexico in particular was reported to be the source of 6% of all CO₂ emissions from federal fossil fuel production, higher than all but one other state. New Mexico was also found to be the source of 23% of all methane emissions from federal lands, higher than every state except Wyoming.

D. Cumulative GHG Emissions from Oil and Gas Development in the Greater

⁴ See Merrill, M.D. *et al.*, 2018, *Federal lands greenhouse gas emissions and sequestration in the United States—Estimates for 2005–14*, U.S. Geological Survey, Scientific Investigations Report 2018-5131 at 1 (2018), available at <https://www.sciencebase.gov/catalog/item/5a96ba37e4b06990606c2b92>.

Carlsbad Region

108. Oil and gas development in the Greater Carlsbad region of southeast New Mexico and northwest Texas takes place in an area known to the oil industry as the Permian Basin, based on geologic nomenclature for the predominantly Permian-era oil- and gas-bearing formations in the region.

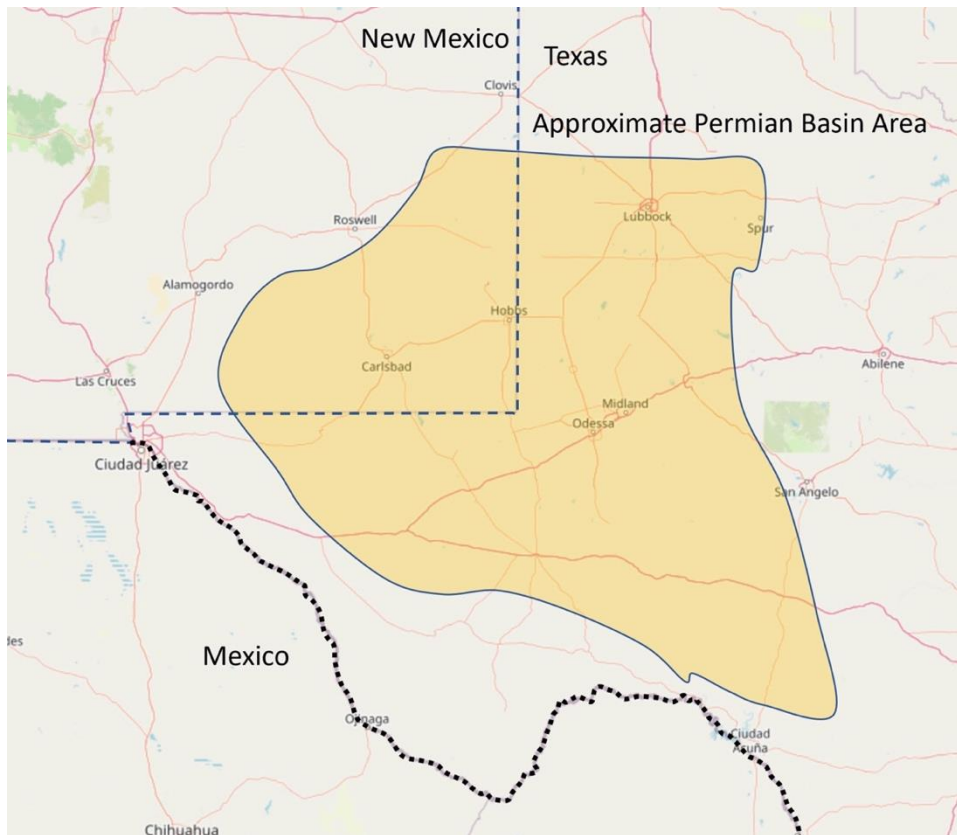


Fig. 1. Approximate location of the Permian Basin.

109. BLM's Pecos District, consisting of the Carlsbad Field Office and Roswell Field Office, generally covers the New Mexico portion of the Greater Carlsbad region/Permian Basin, which includes all or part of Eddy, Lea, Chavez, Roosevelt, and Quay counties. All of the challenged Lease Authorizations relate to land within BLM's Pecos District and specifically land

within the Carlsbad Field Office.

110. Oil and gas development has been ongoing in the Greater Carlsbad region for nearly a century; however, recent technological developments over the past 10 years have significantly lowered the costs of production and enabled a dramatic and unprecedented expansion in regional production.

111. Specifically, the widespread adoption of horizontal drilling and multi-stage hydraulic fracturing by the oil and gas industry has opened up significant areas of “tight oil” to production that was previously uneconomical to extract, thereby enabling a boom in oil and gas production in the Greater Carlsbad region.

112. The Permian boom is part of a broader expansion by the oil and gas industry into previously uneconomical tight oil and gas plays. According to the U.S. Energy Information Administration, in December 2018, U.S. shale and tight plays produced about 65 billion cubic feet per day of natural gas (70% of total U.S. dry gas production) and about 7 million barrels per day of crude oil (60% of total U.S. oil production). A decade ago, in December 2008, shale gas and tight oil accounted for only 16% of total U.S. gas production and about 12% of U.S. total crude oil production.⁵

113. On November 28, 2018, Interior announced the results of a formal USGS assessment of the oil and gas resource potential of two of the geologic units within the Greater Carlsbad region’s Permian Basin, the Wolfcamp Shale and overlying Bone Spring Formation in the Delaware Basin. According to Interior, these two geologic units alone contain an estimated

⁵ EIA adds new play production data to shale gas and tight oil reports (Feb. 15, 2019), <https://www.eia.gov/todayinenergy/detail.php?id=38372#> (last accessed May 30, 2019).

mean of 46.3 billion barrels of oil, 281 trillion cubic feet of natural gas, and 20 billion barrels of natural gas liquids.

114. According to this recent USGS assessment, the Wolfcamp Shale and Bone Spring Formation together constitute the largest unproven, technically recoverable oil and gas reserves in the world. These formations contain continuous, unconventional, or tight oil and gas resources that require unconventional drilling techniques, including horizontal drilling and multi-stage hydraulic fracturing, to extract.

115. As Dr. Jim Reilly, USGS Director explained, “In the 1980’s, . . . the Permian and similar mature basins were not considered viable for producing large new recoverable resources. Today, thanks to advances in technology, the Permian Basin continues to impress in terms of resource potential.”

116. Statistics from the U.S. Energy Information Agency show that oil and gas production in the Greater Carlsbad region has grown dramatically over the past ten years, and particularly in the last four years. Since 2010, oil production in the Permian Basin has grown from less than 1 million barrels per day to 4 million barrels per day, with production nearly doubling in the past two years alone. Tight oil production from the Wolfcamp Shale and Bone Spring Formation has risen from about 0.046 million barrels per day in January 2000, to 1.836 million barrels per day in January 2019, nearly a 40-fold increase in less than twenty years.

117. U.S. Energy Information Agency data shows that overall oil production in New Mexico has risen dramatically over the past decade. From an average daily production of less

than 5.1 million barrels per month in 2009, production has skyrocketed to over 30.8 million barrels per month in 2020.⁶ Oil production in New Mexico has tripled in just the past five years.

118. Nearly one third of the United States' crude oil now comes from the Permian Basin/Greater Carlsbad region, making it the largest shale-oil producing region in the country. And oil and gas production from this region continue to grow rapidly.⁷

119. BLM has played a critical role in facilitating the explosive growth in oil and gas production in New Mexico and the Greater Carlsbad region. Between 2009 and 2020, BLM issued leases covering over 550,000 acres of New Mexico public lands. Over 190,000 acres of leases were sold just between 2016 and 2020.

120. The BLM lease sale challenged herein resulted in the selling off for oil and gas development 32 lease parcels covering more than 5,000 acres of federal public lands in the Carlsbad Field Office. An additional BLM lease sale occurred in the June 2022 competitive oil and gas lease sale, including 536 acres sold in the Pecos District. An additional 19 parcels and 3,280 acres are planned for the May 2023 sale.

121. BLM also continues to rapidly approve oil and gas drilling operations in the Carlsbad Field Office. In FY 2020, BLM approved 2,426 Applications for Permit to Drill (APDs) in the Carlsbad Field Office, approximately 52% of all APDs approved nationwide. As of September 30, 2020, some 2,953 APDs remained pending in the Carlsbad Field Office, 64% of all APDs pending nationwide.

⁶ EIA, *Petroleum & Other Liquids, Crude Oil Production*, https://www.eia.gov/dnav/pet/pet_crd_crpdn_adc_mbbbl_m.htm.

⁷ EIA, *This Week in Petroleum, Permian & Gulf of Mexico Regions Expected to Drive Continued Record-High U.S. Crude Oil Production Through 2020*, https://www.eia.gov/petroleum/weekly/archive/2019/190221/includes/analysis_print.php.

122. The Trump Administration touted the significant royalties generated by past lease sales, noting for example that the September 2018 Greater Carlsbad lease sale generated nearly a billion dollars, the largest dollar-value lease sale in the history of BLM's onshore oil and gas program.⁸ But BLM has never attempted to perform a cost-benefit analysis of continued oil and gas leasing in the Greater Carlsbad region or otherwise taken a hard look into the significant costs associated with climate change, hazardous air pollution, water resources use and degradation, and other environmental impacts resulting from unconventional oil and gas development.

A. Cumulative GHG Emissions and Impacts of the Challenged Leasing Activities

123. The issuance of leases resulting from the CFO January 2021 lease sale will lead to new oil and gas development on almost 6,000 acres of public lands in a region with over 40,000 existing, active oil and gas wells.

124. The January 2021 CFO EA cites to the 2012 and 2014 Reasonably Foreseeable Development scenarios ("RFDS") for the BLM PDO (Engler and Cather 2012, 2014), projecting 800 new oil and gas wells, *each year*, within the Pecos District between 2015 and 2035, the majority of which are predicted to be horizontally drilled.

125. Based on the BLM's projections, the challenged lease sale would result in 32 new horizontal wells that emit 92,639 metric tons of additional CO_{2e} over the 20-year timeframe set forth in the RFDS. Moreover, BLM estimates that the 32 wells authorized by the challenged

⁸ BLM, *Energy Revolution Unleashed: Interior Shatters Previous Records with \$1.1 Billion in 2018 Oil and Gas Lease Sales*, Feb. 6, 2019, <https://www.blm.gov/press-release/energy-revolution-unleashed-interior-shatters-previous-records-11-billion-2018-oil-and->

lease sale would produce enough oil and gas that, when eventually combusted, would emit over 4,000,000 metric tons of CO₂e. BLM cannot simply quantify these emissions, whether direct, indirect, or cumulative – it must actually *analyze* their significance in the context of the global climate crisis.

126. Part of this context involves the past, present, and reasonably foreseeable GHG emissions that occur or will occur as a result of BLM's Fossil Fuel Program, not simply limited to the January 2021 oil and gas lease sale or BLM's New Mexico State Office jurisdiction. While BLM's EA for the January 2021 lease sale provided an estimate of reasonably foreseeable GHG emissions from the consumption of coal, oil, and gas production in New Mexico, Oklahoma, Kansas, and Texas, but limited this analysis of fossil fuel production to just these five states. Both federal and non-federal fossil fuel production in states such as Colorado, Wyoming, and Montana produce and are anticipated produce significant quantities of GHG emissions that are cumulatively significant in association with the emissions anticipated from the oil and gas leases challenged herein.

127. In addition, for the challenged lease sale BLM lists annual well completions and annual CO₂e emissions in the Pecos District Office area over a recent five-year period but does not actually analyze these emissions, their effects, or their significance, in the context of the global climate crisis or otherwise.

128. BLM acknowledges that the production of fossil fuels on federal lands accounts for approximately 20% of total national GHG emissions; yet the agency fails to acknowledge or assess the additive effects of emissions resulting from the challenged lease sale to this cumulative total, as NEPA requires. Nor did BLM provide any context for the significance of

these cumulative emissions, or apply available tools such as carbon budgeting, as discussed below, which would benefit the decisionmaker and public in understanding these emissions in the context of the global climate crisis. Despite BLM’s central role in facilitating fossil fuel production and GHG emissions, the agency arbitrarily failed to account for the cumulative impacts of its decisions to issue the new oil and gas lease in the context of BLM’s other oil and gas leasing, development, and management activities.

B. Tools for Understanding the Significance and Severity of Cumulative GHG Impacts: Social Cost of Carbon and Carbon Budgeting

129. BLM’s analysis must do more than merely identify impacts, including cumulative and potentially disproportionate impacts; it must also “evaluate the severity” of effects.

Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352(1989); 40 C.F.R. § 1502.16(a)-(b) (explaining their “significance”). BLM must use readily-available tools to evaluate the severity and significance of effects.

i. *Social Cost of Carbon*

130. Tools for evaluating the severity of climate change are readily available to BLM. In recognition of the consequences of human-caused climate change, federal agencies have developed a protocol for assessing the social cost of carbon dioxide emissions. The social cost of carbon is “a measure, in dollars, of the long-term damage done by a ton of carbon dioxide (CO₂) emissions in a given year.”⁹ Conversely, the social cost of carbon can represent “the value of

⁹ EPA, “Fact Sheet: The Social Cost of Carbon” (Dec. 2016), *available at* https://www.epa.gov/sites/production/files/2016-12/documents/social_cost_of_carbon_fact_sheet.pdf <https://www3.epa.gov/climatechange/EPAactivities/economics/scc.html> (last accessed January 18, 2023).

damages avoided for a small emission reduction (i.e., the benefit of a CO₂ reductions).”¹⁰ The

EPA has explained:

The [social cost of carbon protocol] is meant to be a comprehensive estimate of climate change damages and includes changes in net agricultural productivity, human health, property damages from increased flood risk, and changes in energy system costs, such as reduced costs for heating and increased costs for air conditioning. However, it does not currently include all important damages.¹¹

131. A federal Interagency Working Group (“Working Group”)—consisting of the EPA, Center for Environmental Quality, Department of Energy, National Economic Council, Office of Management and Budget, Department of Agriculture, Department of Commerce, Department of Transportation, and other agencies—has prepared estimates of the cost that carbon pollution has on society. The Working Group prepared its first Social Cost of Carbon estimates in 2010, which was subsequently updated in 2013, 2015, 2016, and 2022.¹²

132. The Working Group’s Social Cost of Carbon estimates vary according to assumed discount rates and presumptions regarding the longevity and damages caused by carbon pollution in the atmosphere, which for 2020 produced a range of between \$120 and \$340 per metric ton of carbon dioxide. Accepted practice typically applies the median value to determine the social costs of a given project, although the range of values provided by the Working Group offer a means of comparing alternative courses of action and evaluating the significance of climate impacts from a program or project.

¹⁰ *Id.*

¹¹ *Id.*

¹² Interagency Working Group, “Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances” at 3 (September 2022).

133. In 2021, Executive Order 13990 re-established the Working Group after being disbanded by the Trump Administration in 2017. In September 2022, the Working Group issued an updated report on the social cost of carbon, methane, and nitrous oxide for use by federal agencies, that reflects the best available science. According to the report estimates, for 2020 the median Social Cost of Carbon is \$190 per metric ton, which increases over time as additional carbon emissions become more costly to society.

134. During the Trump Administration, BLM's tendency to highlight the economic benefits of leasing, coupled with the agency's refusal to address the climate costs of leasing and subsequent development, undermined NEPA's purpose of informed decision-making "based on [an] understanding of environmental consequences." 40 C.F.R. § 1500.1(c). It also violated NEPA's mandate to "develop methods and procedures . . . which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations." 42 U.S.C. § 4332(2)(B).

ii. Carbon Budgeting

135. Carbon budgeting is another tool BLM should have used for understanding the context and intensity of cumulative climate impacts from its leasing decisions. Carbon budgeting is a well-established method for estimating the impacts from greenhouse gas emissions. A "carbon budget" offers a cap on the remaining amount of GHG emissions that can be emitted while still keeping global average temperature rise below scientifically-based warming thresholds. BLM did not use this tool – or any other – to assess the significance of the impacts from GHG emissions resulting from the Leasing Authorizations.

136. The 2018 IPCC special report on *Global Warming of 1.5°C* provided a global carbon budget for a 66 percent probability of limiting warming to 1.5°C – a scientifically determined threshold above which potentially-irreversible tipping points may be reached with catastrophic results. This carbon budget was estimated at 420 gigatons (“Gt”) CO₂ and 570 GtCO₂ depending on the temperature dataset used, from January 2018 onwards. At the current emissions rate of 42 GtCO₂ per year, this carbon budget would be expended in just 10 to 14 years, underscoring the urgent need for transformative national and global action to transition from fossil fuel use to clean energy.

137. To put these global carbon budgets in the specific context of domestic U.S. emissions and the United States’ obligation to reduce emissions, the United States is the world’s largest historic emitter of GHG pollution, responsible for 26 percent of cumulative global CO₂ emissions since 1870, and is currently the world’s second highest emitter on both an annual and per capita basis. Between 2003 and 2014, approximately 25% of all United States and 3–4% of global fossil fuel GHG emissions were attributable to federal minerals leased and developed by the Department of the Interior.

138. Adding further context to these carbon budgets, a 2016 global analysis found that the carbon emissions that would be emitted from burning the oil, gas, and coal in the world’s *currently operating* fields and mines would fully exhaust and exceed the carbon budgets consistent with staying below 1.5°C or 2°C.¹³ In addition, the reserves in currently operating oil and gas fields alone, even excluding coal mines, would lead to warming beyond 1.5°C. An

¹³ Oil Change International, *The Sky’s Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production* (September 2016), available at: <http://priceofoil.org/2016/09/22/the-skys-limit-report/>.

important conclusion of the analysis is that *most* of the existing oil and gas fields and coal mines will need to be closed before their reserves are fully extracted in order to limit warming to 1.5 degrees.¹⁴ A significant portion of existing fields and mines will need to be closed to limit warming even to 2 degrees.¹⁵

139. To meet the 1.5°C target, the estimated total U.S. carbon budget (for all time) is 25 GtCO₂ to 57 GtCO₂ on average, depending on the sharing principles used to apportion the global budget across countries. The estimated total remaining carbon budget consistent with limiting temperature rise to 2°C ranges from 34 GtCO₂ to 123 GtCO₂, depending on the sharing principles used. EPA estimated 6.5 GtCO₂e total U.S. GHG emissions in 2019. Thus, under any scenario, the remaining U.S. carbon budget compatible with avoiding catastrophic climate change is extremely small or already expended.

140. Guardians described both the Social Cost of Carbon and Carbon Budgeting tools to BLM in detail in comments on the draft EA and in protest comments for the challenged lease sale, but the agency failed to provide a non-arbitrary explanation for its dismissal of Social Cost of Carbon and Carbon Budgeting in the challenged lease sale EA. In dismissing use of carbon budgeting, BLM noted that it is possible that “the [global carbon] budget has already been expended by 1,000 Gt CO₂.” But this dire risk only highlights the significance of additional GHG emissions and further merits a full carbon budget analysis.

III. Air Pollution and Public Health Impacts

¹⁴ Oil Change International, *The Sky's Limit California: Why the Paris Climate Goals Demand That California Lead in a Managed Decline of Oil Extraction*, 7, 13 (2018), available at <http://priceofoil.org/ca-skys-limit>.

¹⁵ Oil Change International, *supra* note 14 at 5, 7.

141. Health effects related to air pollution are reasonably foreseeable and significant, and thus must be included in BLM's NEPA analysis. Oil and gas drilling, hydraulic fracturing, production, transmission, and processing result in emissions of methane, NOx and VOCs that contribute to ozone formation, hazardous air pollutants, and airborne particulates.

142. Hazardous air pollutants associated with oil and gas production include benzene, toluene, ethylbenzene, and xylene. These hazardous air pollutants are linked to cancer, neurological, cardiovascular, liver, kidney, and respiratory effects as well as effects on the immune and reproductive systems.

143. Oil and gas development also leads to ozone formation. Ozone forms in the atmosphere, when NOx and VOCs react with sunlight, and can move with the wind – causing health problems for entire regions – not just for people living close to oil and gas facilities. BLM acknowledges in the Final EA for the January 2021 lease sale that ozone is the “criteria pollutant that is of most concern” for the analysis area.

144. High ozone levels are a serious health concern in oil and gas producing regions. Ozone exposure can cause or exacerbate respiratory health problems, including shortness of breath, asthma, chest pain and coughing, decreased lung function and long-term lung damage, all of which can contribute to premature deaths. These health impacts also result in more hospital and emergency room visits, lost work and school days, and restricted activity days.

145. In the January 2021 CFO EA, BLM acknowledges that “[b]reathing [ozone] can have human health effects, particularly for sensitive groups (children, the elderly, and those with chronic lung conditions like bronchitis, emphysema, and asthma).” But BLM failed to analyze those effects, for “sensitive groups” or otherwise.

146. Ozone levels in the Greater Carlsbad region already threaten human health, and BLM's Leasing Authorizations will exacerbate this existing problem. Air quality monitors in the Greater Carlsbad region routinely record ozone levels that exceed the 8-hour ozone National Ambient Air Quality Standards ("NAAQS"). BLM acknowledges that the 2811 Holland Street monitoring station (Site ID: 350151005) in Eddy County and the 2320 N. Jefferson Street monitoring station (Site ID: 350250008) in Lea County have recorded ozone levels violating the NAAQS, meaning air quality in both counties is in an undeclared state of non-attainment with the NAAQS for ozone. Nonattainment with the ozone NAAQS is determined by the design value of air quality in a particular area, which is calculated according to the three-year average of the annual fourth-highest maximum daily ozone concentrations. A design value exceeding the ozone NAAQS, therefore, is indicative of longstanding and sustained air pollution in exceedance of the standards protective of human health.

147. The Carlsbad Caverns National Park monitoring station (Site ID: 350150010) also now regularly exceeds the 70 ppb 8-hour ozone NAAQS, recording 30 exceedances between 2019 and 2021. In fact, based on the Park Service's own data for 2019, 2020, and 2021 the National Park is currently in a state of actual, if unofficial non-attainment with the 8-hour ozone NAAQS, based on the three-year average of the annual fourth-highest maximum daily ozone concentrations, which now exceeds 74 ppb. BLM failed to discuss the monitored air quality data at Carlsbad Caverns National Park or analyze the health impacts from the Leasing Authorizations to this area despite the monitoring data's demonstrable exceedances of federal ozone standards.

148. According to the EPA, the oil and gas industry is the largest industrial source of

VOC emissions, which contribute significantly to the formation of ground-level ozone. The EPA reports that the oil and gas industry “emits 2.2 million tons of VOCs, 130,000 tons of air toxics, and 16 million tons of greenhouse gases (methane) each year (40% of all methane emissions in the U.S.). The industry is one of the largest sources of VOCs and sulfur dioxide emissions in the United States.”

149. BLM acknowledges that oil and gas development is one of the primary causes air quality problems, including contributing to ozone pollution. However, BLM fails to place the individual lease sales in context of the regional boom in oil and gas development and production and never considers the cumulative impacts of the 32 Leasing Authorizations challenged herein in combination with past, present, and future oil and gas development in the area.

150. BLM’s failure to take a hard look at ozone pollution is particularly problematic because air quality in the Greater Carlsbad region is already exceeding the ozone standards. Thus, there is no room for growth in emissions that contribute to these harmful levels of ozone pollution in the Greater Carlsbad region, in particular NO_x and VOCs. Any increase in emissions of these ozone precursors will exacerbate the negative health effects from already high levels of ozone in the region. The expansion of oil and gas development in the Pecos District Office, particularly in the Carlsbad Field Office, has the potential to significantly add to emissions of NO_x and VOCs, exacerbating the region’s existing ozone problem.

151. In the January 2021 EA, BLM relies on the claim that state and federal permitting, recordkeeping, monitoring, and reporting requirements, will ensure compliance with air quality emission standards, and that these state and federal requirements are designed to ensure that a proposed source of air pollution will not cause or contribute to a violation of NAAQS. But

BLM's reliance on existing state and federal air quality rules is misplaced and belied by the fact that ozone levels in the Greater Carlsbad region have been worsening for more than a decade, despite substantial improvements in ozone levels in most other areas. BLM's Technical Report states that "national ozone concentrations in rural areas have decreased approximately 11% from 2000 to 2015" yet "[i]n Carlsbad, NM, removing the effects of weather, ozone concentrations increased 8% between 2000 and 2012." Ozone levels have continued to worsen since 2012 as the fracking boom has spread throughout the Greater Carlsbad region and now routinely exceeds federal standards throughout the region.

152. In analyzing the impacts from the Leasing Authorizations on compliance with human health standards for air quality, BLM states that "given the spatial distribution and the overall number of wells to be developed as part of the Proposed Action, it is not expected that the Proposed Action would lead directly to additional NAAQS exceedances of [ozone] in Eddy and Lea Counties." But whether or not the Lease Authorizations will lead *directly* to additional NAAQS exceedance of ozone is an overly narrow lens with which to consider the impacts to air quality. As discussed above, the air quality in Eddy and Lea Counties is already violating the ozone NAAQS, so the development of the oil and gas leases authorized by BLM will inevitably contribute to the ongoing NAAQS violations and associated human health impacts. Moreover, the addition of ozone-forming pollution caused by the Leasing Authorizations will also make it more difficult to return ozone levels in these areas to below the NAAQS. By limiting its analysis to whether the Leasing Authorizations would lead *directly* to additional NAAQS exceedances of ozone, BLM fails to acknowledge the additive effects of the ozone-forming emissions resulting from the challenged lease sale to the cumulative concentration of ozone existing in the Greater

Carlsbad region. BLM must actually analyze these ozone-forming emissions, their effects, or their significance, in the context of the area's current state of actual non-attainment with the ozone NAAQS.

153. In reviewing the cumulative air pollution impacts from the Leasing Authorizations, BLM points to air quality modeling as the basis for its claim that there will be no significant impact from the cumulative emissions of ozone-forming pollution that the Leasing Authorizations would cause in addition to the past, present, and reasonably foreseeable emissions. But the modeling referenced by BLM is nearly a decade old. BLM's cumulative impact analysis of air pollution impacts hinges on a 2013 Air Resources Technical Support Document ("ARTSD") that, for example, analyzed ozone impacts from oil and gas activities according to 2008 standard for ozone, 75 ppb, not the 2015 standard, 70 ppb. Basing its cumulative impact analysis on an air quality assessment published in 2013, BLM lacked a substantial basis for its conclusion that the Leasing Authorizations would not have significant cumulative effects on regional air quality, particularly with respect to ozone.

154. BLM is similarly dismissive regarding emissions of other criteria pollutants protected under the NAAQS. The January 2021 CFO EA, for example, states, "the incremental addition of criteria pollutants and VOCs [from the Proposed Action] would not be expected to result in any exceedances of the NAAQS or NMAAQs for any criteria pollutants in the analysis area," but BLM fails to offer any evidentiary support for this assertion or any explanation for how it reached this conclusion. BLM does point, again, to the 2013 Air Resources Technical Support Document, but as discussed that air quality data and modeling is nearly a decade old. Even so, the 2013 ARTSD concluded that the cumulative emissions of air pollution sources will

lead to pollutant concentration levels of ozone, PM_{2.5}, and potentially SO₂ to approach or exceed the NAAQS. BLM's response to the modeled deterioration of air quality based on reasonably foreseeable oil and gas development is that more monitoring data, refined modeling, and consideration of additional management measures are needed. This response is an abdication of BLM's hard look obligations under NEPA.

155. Particle pollution is also of particular concern in the lease sale area. In the January 2021 CFO EA, BLM states that "PM₁₀ are not currently monitored in the tri-county analysis area, and there are no areas of high concentrations that would warrant monitoring by the NMED." At the same time, BLM states that particulate matter is of "heightened concern" when emissions are near "sensitive receptors, such as residences" because PM can be present in higher concentrations in a localized area prior to settling or dispersion. The January 2021 CFO EA identified at least two residences within approximately 0.01 miles (~50 feet) from two of the leased parcels, parcels 392 and 393. Particularly in light of this "heightened concern," insufficient PM₁₀ monitoring in the area is not an excuse for dismissal of the issue – instead, it is a serious problem that necessitates further analysis of reasonably foreseeable health effects from exposure to particulate matter, even if exact concentrations are not known.

156. Adverse health effects are well-documented for both short and long-term exposure to particulate matter and other air pollutants from oil and gas operations. Air pollution exposure can affect both short-term and long-term lung function, and exacerbate existing medical conditions, including asthma and heart disease. Even short-term exposure to particulate matter and ozone has been scientifically linked to increased hospital admissions, emergency room visits, and even deaths. EPA's 1-hour, 8-hour, and 24-hour standards for various NAAQS

reflect this recognition of significant human health effects associated with even short-term exposure. And there is no safe limit for HAPs.

157. BLM dismisses health concerns by improperly relying on outdated regional air quality technical reports, incomplete county-level air quality index (“AQI”) data, and the assumption that oil and gas operations authorized in the January 2021 leasing decision would be subject to state and federal permitting requirements designed to ensure pollution sources will not cause or contribute to a violation of the NAAQS standards, none of which adequately reflects the site-specific, direct, and cumulative exposures, risks, and reasonably foreseeable health impacts of the challenged lease sale. The fact that the air quality in the analysis area has routinely violated the ozone NAAQS since at least 2018, demonstrates that the state and federal permitting requirements are failing to ensure compliance with the NAAQS. This cursory treatment of air pollution and health effects falls far short of the hard look NEPA requires.

IV. Water Resources Impacts

158. Groundwater contained in subsurface aquifers is a critically important resource that provides water for drinking, agriculture, and other uses, particularly in the Southwest United States. Groundwater aquifers with usable water can occur at great depths, including many thousands of feet below the surface.

159. Climate change makes it even more important to protect potentially usable sources of groundwater, even if those groundwater reserves are not currently in use. The warming climate is expected to increase demand for groundwater in the coming years, putting greater pressure on current sources and requiring water from previously untapped groundwater sources. The EPA has noted that the “existing distribution of the drinking water sources in the

United States may not be sufficient in some locations to meet future demand. The future availability of sources of drinking water that are considered fresh will likely be affected by changes in climate and water use.”¹⁶

160. As a result, deeper and higher-salinity groundwater will likely be needed in the coming decades. In fact, Congress passed the federal Safe Drinking Water Act (“SDWA”) with this purpose. The Act is intended to “protect not only currently-used sources of drinking water, but also potential drinking water sources for the future. This may include water sources which presently exceed...water quality requirements . . . or which are not presently accessible for use as . . . drinking water.”¹⁷

161. Oil and gas well drilling involves boring wells to depths thousands of feet below the surface, often through groundwater aquifers. Without proper well construction, drilling can contaminate underground sources of water. In a comprehensive study, EPA concluded that without proper well construction, drilling can contaminate groundwater because drilling fluids, gases, and chemical can seep out of the wellbore into groundwater aquifers.¹⁸ For this reason, proper installation and cementing of metal well casing below the deepest protected water source is critical.

162. The risks of groundwater contamination are heightened by the geologic formations and aquifers underlying the Greater Carlsbad region. In particular, the karst geology presents extreme water quality risks. Karst formations in the Greater Carlsbad region are

¹⁶ U.S. Environmental Protection Agency, *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States*, EPA/600/R-16/236F, at 2–18 (Dec. 2016) (“EPA 2016 Report”).

¹⁷ H.R. Rep. No. 93-1185 (1974), 1974 U.S.C.C.A.N. 6454, 6484.

¹⁸ EPA 2016 Report, *supra* note 16.

generally formed by the dissolution of limestone or gypsum, producing highly porous rock characterized by cavernous porosity and conduit flow. Drilling through karst formations can lead to blown wells and bit drops, which risk the contamination of aquifers with fracking fluid or oil and gas constituents. Groundwater contamination in karst aquifers can spread rapidly through preferential flow paths, which include large caves and caverns in the Greater Carlsbad region.

163. Oil and gas development, particularly unconventional techniques using multi-stage hydraulic fracturing and horizontal drilling, poses well-documented risks to water quality. In the first several days to weeks after the multi-stage fracking process, the well pressure is released and a portion of the fracking fluid—known as “flowback”—returns to the surface of the wellbore. Over longer time periods, water naturally present in the targeted formation—known as “produced water”—continues to flow through the well to the surface. The flowback and produced water typically contain both the injected chemicals and naturally occurring contaminants such as brines, heavy metals, radionuclides, and hydrocarbons. Very small quantities of some toxic fracking chemicals, such as benzene, are capable of contaminating millions of gallons of water.

164. Fracking fluid is a conglomeration of various chemicals and compounds, many of which are highly toxic. EPA has noted that a 3 million gallon fracturing operation generally uses 15,000 to 60,000 gallons of chemical additives. Many of these fracking fluid chemicals are known to be toxic to humans and wildlife, and several are known to cause cancer. Toxic substances used in fracking include petroleum distillates such as kerosene and diesel fuel (which contain benzene, ethylbenzene, toluene, xylene, naphthalene and other chemicals); polycyclic aromatic hydrocarbons; methanol; formaldehyde; ethylene glycol; glycol ethers; hydrochloric

acid; and sodium hydroxide.

165. Given the use of such chemicals and their presence in flowback and produced water, the contamination of domestic and agricultural water supplies from multi-stage hydraulic fracturing is a serious risk. Moreover, if the wellbore is not properly sealed, cased, or its integrity is otherwise compromised, chemicals and other toxic substances can escape as they move through the well. The fracking fluid can also migrate underground, through natural and induced fractures, and lead to contamination of groundwater. Active and abandoned wells can also serve as pathways for the migration of contaminants into water sources. Spills of fracking fluids including the flowback can occur on the surface during storage, transportation and/or disposal.

166. Reporting from New Mexico has acknowledged a proliferation of “frack hits,” or “downhole communication,” where new horizontal drilling for oil is communicating with both historic and active vertical wells. This is a significant development that could result in well blowouts, contamination of resources, and conflict over who is responsible for liabilities and costs of such impacts.

167. Fracking has been well documented to cause groundwater contamination, from Wyoming to Pennsylvania. But “experts say that nowhere is that risk greater than in southeast New Mexico.” As a recent Assistant Commissioner in the New Mexico State Land Office, which manages nearly 2 million acres of state land for energy production, stated, “Conditions here [in New Mexico] are unique . . . The volumes of water the industry uses are so prolific. The disposal problems are more pronounced. The potential for something to go wrong is higher.”¹⁹

¹⁹ Keith Schneider, *New Mexico’s Oil Boom is Raising a Lot of Questions about Water*, LOS ANGELES TIMES (Mar. 26, 2018), available at: <https://www.abqjournal.com/1150794/heres-why-new-mexicos-oil-boom-is-raising-a-lot-of-questions-about-water.html>.

168. A dye tracer study conducted by a BLM scientist in the Carlsbad Field Office found “positive connections between the oil and gas drilling operations and several critical water supplies” in the area.²⁰ Tracing dyes mixed into drilling fluids were later detected in area wells and springs, providing clear evidence of a hydrologic connection between drilling operations and water supplies and indicating that “failures in the production casing and cementing may also allow hydrocarbons to enter the aquifers.” BLM’s own scientists have concluded that: “The initial results are conclusive that the drilling fluids do enter the aquifers.” The January 2021 CFO EA does not consider or discuss these studies or their conclusions.

169. New Mexico state records document tens of thousands of spills in the Greater Carlsbad region from the oil and gas industry, including releases of oil and produced water, and show hundreds of instances of oil and gas operations polluting groundwater, the source of drinking water for approximately 90% of the state’s residents, and the vast majority of people living in the Greater Carlsbad region.

170. The opportunity for groundwater contamination is not limited to spills occurring on the surface but can also result from drilling and fracking operations that occur below the surface, including the subsurface injection of produced water, the predominant method for wastewater disposal from oil and gas development in the Greater Carlsbad region. The EPA recommends strict limitations on injection pressures for disposal wells “to prevent fracturing of the confining zone and possible contamination of underground sources of drinking water,” suggesting a serious risk that water back pressures may cause a release of produced and

²⁰ James Goodbar, U.S. Bureau of Land Mgmt., *Dye Tracing Oil and Gas Drilling Fluid Migration Through Karst Aquifers: A Pilot Study to Determine Potential Impacts to Critical Groundwater Supplies in Southeast New Mexico, USA*.

flowback water into the water-bearing strata.

171. EPA's National Underground Injection Control Inventory for 2019 identifies 983 Class II disposal wells, and 3,249 Class II recovery wells in New Mexico, not including tribal lands. *Available at* https://www.epa.gov/sites/default/files/2020-12/state_fy19_inventory_cor.xlsx. There are reportedly more than 720 active disposal wells in New Mexico's Greater Carlsbad region. BLM has never assessed the cumulative impacts and risks of these disposal wells on New Mexico's water resources and environment.

172. Although the EA did acknowledge that oil and gas development, and especially fracking, poses risks to groundwater generally, the EA did not address the potential impacts to groundwater associated with the lease sale at hand. The EA did list as non-site specific potential impacts associated with oil and gas development: (1) water withdrawals during periods of low water availability; (2) spills of hydraulic fracturing fluids/chemicals and/or produced water; (3) release of hydraulic fracturing fluids from wells with inadequate casing; (4) direct injection of hydraulic fracturing fluids into groundwater; (5) discharge of insufficiently treated wastewater to surface water; and (6) contamination of groundwater from unlined storage/disposal pits.

173. However, despite acknowledging these generalized risks, the EA does not attempt to characterize potential impacts to groundwater from the lease sales specifically. Instead, the EA asserts, without explanation and contrary to substantial evidence, that federal and state regulation will ensure adequate wellbore casing and cementing. Rather than undertaking a meaningful analysis of groundwater impacts, BLM improperly deferred this analysis until a later stage when it approves drilling permits, even though this analysis and groundwater testing is not typically done at the drilling permit stage. None of the leases contained any sort of stipulation or other

requirements mandating installation of protective casing to a specific depth to prevent contamination of usable groundwater, or any requirement that oil and gas operators test for usable water before drilling.

CLAIMS FOR RELIEF

FIRST CLAIM FOR RELIEF

Failure to Take a Hard Look at Public Health and Environmental Impacts of Leasing Public Lands for Oil and Gas Development (BLM's Violation of NEPA)

174. Conservation Groups incorporate by reference all preceding paragraphs.

175. Pursuant to NEPA and its implementing regulations, BLM must take a hard look at the direct, indirect, and cumulative environmental impacts of a proposed action before the agency makes any irreversible and irretrievable commitment of resources. 42 U.S.C. §§ 4332(2)(C)(i)–(v); 40 C.F.R. §§ 1502.14(a), 1502.16, 1508.7, 1508.8, and 1508.14.

176. BLM is required to take a hard look at these impacts at the leasing stage, *before* there are “any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.” 42 U.S.C. § 4332(2)(C)(v); *see also* 40 C.F.R. §§ 1501.2, 1502.5(a).

177. Because lease issuance without a No Surface Occupancy stipulation represents an irretrievable commitment of resources, BLM must take a hard look at all reasonably foreseeable impacts at the leasing stage.

178. To comply with NEPA, BLM was required to take a hard look at the impacts, including cumulative impacts, of the January 2021 CFO lease sale, including the context and severity of the impacts of those impacts.

179. Where information relevant to foreseeable adverse impacts is unavailable, agencies must nonetheless evaluate “such impacts based upon theoretical approaches or research methods generally accepted in the scientific community.” 40 C.F.R. § 1502.22(b)(4). With regard to climate change, there are several accepted approaches for evaluating the impacts of GHG emissions to climate and society, including the Social Cost of Carbon and Carbon Budgeting.

180. BLM failed to take a hard look at impacts to climate, air quality and public health, and water resources, and failed to discuss the severity of those impacts, when proceeding with the January 2021 lease sale.

181. BLM failed to take a hard look at the cumulative impacts of greenhouse gas emissions and climate impacts from the Leasing Authorizations when added to other GHG-emitting activities cumulatively affecting climate change. BLM further failed to evaluate the significance and severity of the cumulative GHG emissions and climate impacts of its leasing decisions, and was arbitrary and capricious in its decisions not to use the Social Cost of Carbon or Carbon Budgeting analytical tools to assess significance.

182. BLM failed to take a hard look at air quality and public health impacts from the challenged leasing decisions. Given monitored ozone levels in excess of the NAAQS, BLM’s determination that additional emissions would not directly lead to exceedances of the NAAQS was arbitrary and capricious. BLM’s determination that oil and gas development on the challenged leases would not have cumulatively significant impacts on ozone levels was arbitrary and capricious, particularly in light of the region’s well-documented existing ozone pollution problem.

183. BLM failed to take a hard look at impacts to water resources from the challenged leasing decisions. Given well-documented risks of aquifer contamination associated with oil and gas development, BLM was arbitrary and capricious to dismiss such risks as insignificant under NEPA.

184. BLM's leasing-decision specific failures are "arbitrary, capricious, and abuse of discretion, or otherwise not in accordance with law," in violation of NEPA, 42 U.S.C. § 4332(C)(ii), and its implementing regulations at 40 C.F.R. §§ 1508.7, 1508.8, 1508.25, 1508.27, and the APA at 5 U.S.C. § 706(2)(A).

SECOND CLAIM FOR RELIEF

Failure to Prepare an EIS (BLM's Violation of NEPA)

185. Conservation Groups incorporates by reference all preceding paragraphs.

186. BLM's authorization and issuance of the leases sold through the January 2021 oil and gas lease sale constitute major federal actions under NEPA.

187. BLM does not have to prepare an EIS where it has demonstrated that the proposed action "will not have a significant effect on the human environment[.]" 40 C.F.R. § 1508.13. To assess whether or not an impact is significant, BLM must consider the "context and intensity" of the impact, including cumulatively significant effects and the degree to which an action affects public health and safety. 40 C.F.R. § 1508.27.

188. BLM failed to evaluate the context and intensity of the environmental impacts resulting from its decision to issue the 32 leases challenged herein, pursuant to NEPA. BLM also failed to provide convincing statements of reasons justifying its decision to forgo an EIS analyzing the impacts of the 32 lease parcels challenged herein, as required by NEPA.

189. BLM's Leasing Authorizations will cause or contribute to greenhouse gas emissions, air pollutant emissions, and other impacts that will significantly and adversely affect the climate, air quality and public health, and water resources in the region. NEPA therefore requires BLM to identify such impacts and assess their context and intensity on the record to support the agency's decision to forego an EIS. BLM failed to do this.

190. BLM violated NEPA by failing to prepare an EIS before approving the Leasing Authorizations for the lease sale challenged herein. BLM also failed to provide a convincing statement of reasons on the record justifying its decisions to forego preparation of an EIS. BLM's failures are arbitrary, capricious, and abuse of discretion, in excess of statutory authority and limitations, short of statutory right, and not in accordance with the law and procedures required by law. 5 U.S.C. §§ 706(2)(A), (C), (D).

RELIEF REQUESTED

WHEREFORE, Plaintiff Conservation Groups respectfully requests that this Court:

- A.** Declare that BLM's Leasing Authorizations violate NEPA and its implementing regulations, and;
- B.** Vacate, set aside, and remand BLM's Leasing Authorizations;
- C.** Enjoin BLM from any further leasing authorizations within the Carlsbad Field Office pending BLM's full compliance with NEPA and its implementing regulations;
- D.** Enjoin BLM from approving or otherwise taking action on any pending or future Applications for Permits to Drill on the leases included in the lease sales challenged herein until BLM has fully complied with NEPA and its implementing regulations;

E. Enter such other declaratory and/or injunctive relief as Conservation Groups may specifically request hereafter;

G. Retain continuing jurisdiction of this matter until BLM fully remedies the violations of law complained of herein;

H. Award Conservation Groups their fees, costs, and other expenses as provided by applicable law; and

I. Grant Conservation Groups such additional and further relief as this Court may deem just, proper, and equitable.

Respectfully submitted this 23 day of January 2023,

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Table A. List of Lease Parcels Challenged Herein.

January 14, 2021 Lease Sale

Lease Serial Number	BLM Field Office	Acres
NMNM 142551	Carlsbad	80.00
NMNM142552	Carlsbad	120.00
NMNM 142553	Carlsbad	40.00
NMNM 142554	Carlsbad	80.00
NMNM 142555	Carlsbad	320.00
NMNM 142556	Carlsbad	80.00
NMNM 142557	Carlsbad	40.00
NMNM 142558	Carlsbad	40.00
NMNM 142559	Carlsbad	160.00
NMNM 142560	Carlsbad	576.51
NMNM 142561	Carlsbad	80.00
NMNM 142562	Carlsbad	80.00
NMNM 142563	Carlsbad	960.00
NMNM 142564	Carlsbad	320.00
NMNM 142565	Carlsbad	320.00
NMNM 142566	Carlsbad	40.00
NMNM 142567	Carlsbad	160.00
NMNM 142568	Carlsbad	42.30
NMNM 142569	Carlsbad	80.00
NMNM 142570	Carlsbad	240.00
NMNM 142571	Carlsbad	160.00
NMNM 142572	Carlsbad	160.00
NMNM 142573	Carlsbad	80.00
NMNM 142574	Carlsbad	320.00
NMNM 142575	Carlsbad	40.00
NMNM 142576	Carlsbad	80.00
NMNM 142577	Carlsbad	80.00
NMNM 142578	Carlsbad	50.68
NMNM 142579	Carlsbad	154.57
NMNM 142580	Carlsbad	718.30
NMNM 142581	Carlsbad	80.00
NMNM 142582	Carlsbad	160.00
TOTAL		5,942.36