

The Coalbed Methane Boom: The Push for Energy Independence Raises Questions About Water and the Rights of America's Homesteaders

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I. INTRODUCTION

As the Nation's demand for natural gas rises in the future, so, too, will the role of domestic unconventional gas sources. The Energy Information Administration predicts that as conventional onshore and offshore natural gas fields mature and decline in the lower forty-eight states, unconventional production will become the largest source of the U.S. gas supply, reaching 9.5 trillion cubic feet (Tcf) per year by 2030.¹ Coalbed methane production in the intermountain West will play a major role in meeting the Nation's energy needs, and the boom is just beginning.²

This Comment will provide the reader with a comprehensive view of the coalbed methane boom currently underway in the Western United States. Part II will provide a detailed overview of the science of coalbed methane, unique development challenges, the history of industry and political perceptions, and the current politics behind the Nation's plan to develop the largest natural gas play in the lower forty-eight states. Part III will analyze the unique challenges federal and state agencies face as they attempt to regulate the massive surge in domestic production and ensure compliance with environmental protection laws and policies. Part IV will discuss the plight of American homesteaders in the intermountain West as their surface lands are impacted for the sake of National energy demand and security. Finally, this Comment will synthesize the sum of its parts and analyze the perils of hasty actions that could permanently alter the ecosystems of the Rocky Mountain West.

II. COALBED METHANE IN THE INTERMOUNTAIN WEST

A. Coalbed Methane: A Brief Overview

Natural gas, composed primarily of methane, is the cleanest burning fossil fuel.³ Natural gas combustion produces carbon dioxide and water, unlike traditional coal and oil combustion which emanates a variety of air

1. See ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, ANNUAL ENERGY OUTLOOK 2006, at 86, http://www.eia.doe.gov/oiaf/aco/pdf/trend_4.pdf (last visited Mar. 5, 2006).

2. See *id.*

3. See NaturalGas.org, *Natural Gas and the Environment*, <http://www.naturalgas.org/environment/naturalgas.asp> (last visited Feb. 21, 2006).

pollutants.⁴ As such, natural gas has recently become the “fuel of choice” in a wide variety of residential uses ranging from home heating to oven ranges, and fertilizer and chemical industries have historically used large quantities of natural gas as a raw material.⁵ In fact, nearly every electricity generation capacity addition made during the late 1990s was gas fired.⁶ The U.S. Department of Energy’s Energy Information Administration (EIA) has forecasted an increase in natural gas demand by fifty percent over the next twenty-five years.⁷ Though liquefied natural gas (LNG) terminals and regassification plants should provide a significant source of imported gas at American ports in the future, the bulk of the Nation’s supply of natural gas for the foreseeable future must be transported by pipeline.⁸ Currently, domestic natural gas supply is drawn almost exclusively from domestic sources or imported from Canada, which has very large natural gas supplies and ready pipeline access to the lower forty-eight states.⁹

Coalbed methane (CBM) is a form of natural gas that is formed within coal seams and trapped in place by underground water pressure.¹⁰ Over long periods of time, heat and pressure transform the organic matter in high rank coals into methane, whereas decomposition of the organic matter in coal by bacteria is responsible for the presence of methane in low rank coals.¹¹ Due to their vast surface area and extensive fracturing, coals can hold massive quantities of methane.¹² Similar to conventional gas deposits, CBM “exists in the coal in three basic states: as free gas, as gas dissolved in the water in coal; and as gas ‘absorbed’ on the solid surface of the coal, that is, held to the surface by weak forces

4. *See id.*

5. *See Energy Demand in the 21st Century: Are Congress and the Executive Branch Meeting the Challenge? Before the Subcomm. on Energy and Res. of the H. Comm. on Gov’t Reform*, 109th Cong., GAO-05-414T, 14 (2005) (statement of Jim Wells, Director, Natural Res. & Env’t, U.S. Gov’t Accountability Office) [hereinafter Wells], available at <http://reform.house.gov/uploadedFiles/Jim%20Wells%20Testimony%203-26-05.pdf>.

6. CAROL GLOVER & CARL E. BEHRENS, CONG. RESEARCH SERV., ENERGY: USEFUL FACTS AND NUMBERS, RL31849, at 15 (2005), available at <http://www.nceonline.org/nle/crsreports/05apr/RL31849.pdf>.

7. Wells, *supra* note 5, at 22.

8. *See* GLOVER & BEHRENS, *supra* note 6, at 15; NAT’L ENERGY POLICY DEV. GROUP, EXEC. OFFICE OF THE PRESIDENT, NAT’L ENERGY POLICY, at ix (2001), <http://www.whitehouse.gov/energy/National-Energy-Policy.pdf>.

9. *See* NAT’L ENERGY POLICY DEV. GROUP, *supra* note 8, ch. 1, at 7.

10. *See* Gary Bryner, *Coalbed Methane Development in the Intermountain West: Primer*, Natural Res. Law Ctr., Univ. of Colo. Sch. of Law, at 2-3 (2005), http://www.colorado.edu/Law/centers/nrlc/publications/CBM_Primer.pdf.

11. *See id.* at 2.

12. *Id.*

called van der Waals forces.”¹³ As water pressure is lowered, CBM dissociates from coal and water, and migrates through fractures in the earth into the well bore or rises to the surface.¹⁴

Methane remains trapped in a coalbed as long as the water table is higher than the coal.¹⁵ By “dewatering,” or pumping the water out of a coal seam, developers lower the water table, thereby creating the necessary conditions for gas migration.¹⁶ Due to this unique production process, CBM development can significantly compromise underground water aquifers.¹⁷ This Comment will discuss in detail environmental concerns over expedited, large-scale CBM development in the Western United States and the consequent proximate impacts to water quantity and quality and the integrity of surface lands.

B. The CBM Boom in the Intermountain West: From Waste to Haste

At the turn of the twentieth century, CBM was considered a dangerous waste product of coal mining and a serious health threat to miners.¹⁸ Coal mine fires and explosions led to the practice of venting and the creation of the first mine safety laws.¹⁹ However, as natural gas evolved into an economically viable and environmentally preferable source of energy, Congress changed its tune and began to promote the production of this “unconventional” gas resource.²⁰

In 1980, Congress approved a tax credit for unconventional fuel production, the Crude Oil Windfall Profit Tax Act (section 29), creating the first major incentive for the development of coalbed methane.²¹ Within seven years, the CBM boom was officially underway.²² Though the credit applied only to wells drilled before 1993, production from new wells continued to surge.²³ Following its expiration in 2002, the Senate passed an extension of the section 29 credit for CBM in its version of the Energy Policy Act of 2003.²⁴ An apparent casualty of conference

13. *Amoco Prod. Co. v. S. Ute Indian Tribe*, 526 U.S. 865, 873 (1999).

14. *See* Bryner, *supra* note 10, at 3.

15. *Id.*

16. *See id.*

17. *See* MARC HUMPHRIES, CONG. RESEARCH SERV., OIL & GAS EXPLORATION & DEVELOPMENT ON PUBLIC LANDS, RL32315, at 17 (2004), available at <http://www.ncseonline.org/NLE/CRSreports/04mar/RL32315.pdf>.

18. *See Ute Indian Tribe*, 526 U.S. at 875-76.

19. *See id.* at 876.

20. *See* HUMPHRIES, *supra* note 17, at 16.

21. *Id.*

22. *See id.*

23. *See* Bryner, *supra* note 10, at 6.

24. Energy Policy Act of 2003, S. 2095, 108th Cong. § 1359 (2004).

negotiations between the House and Senate last summer, the extension of CBM tax relief was not included in the Energy Policy Act of 2005 as signed by President George W. Bush last August.²⁵

In the first six months of the Bush Administration, the White House released the recommendations of the President's National Energy Policy Development Group (NEPD), led by Vice President Cheney.²⁶ The President's 2001 National Energy Policy cautioned, "the shortfall between projected energy supply and demand in 2020 [will be] nearly fifty percent. That shortfall can be made up in only three ways: import more energy; improve energy efficiency even more than expected; and increase domestic energy supply."²⁷ The report specifically predicted the amount of natural gas used in electricity generation will triple by 2020.²⁸

In response to the NEPD's recommendations, President Bush signed Executive Order 13212—Actions To Expedite Energy-Related Projects. The Order established an interagency task force, the White House Task Force on Energy Project Streamlining, "to monitor and assist the agencies in their efforts to expedite their review of permits or similar actions, as necessary, to accelerate the completion of energy-related projects, increase energy production and conservation, and improve transmission of energy."²⁹ Since President Bush took office, Administration pressure on land management agencies to achieve profound increases in energy development on public lands, arguably the top priority for the United States Department of the Interior's (DOI) Bureau of Land Management (BLM), has produced staggering results.³⁰ In fiscal year 2005, DOI approved 7018 permits to drill for oil and gas on public lands, nearly quadrupling its benchmark of 1803 approvals in fiscal year 1998.³¹ "Much of the increased oil and gas activity was

25. See *NMA Provides Insight on Coal Mining Industry Activities and Concerns*, COALBED METHANE EXTRA (Env'tl. Prot. Agency, Washington, D.C.), Dec. 2005, at 8, available at <http://www.epa.gov/cmop/resources/extra/1-06.pdf>.

26. See NAT'L ENERGY POLICY DEV. GROUP, *supra* note 8.

27. *Id.* ch. 5, at 3.

28. *Id.* ch. 5, at 18.

29. Exec. Order No. 13,212, 66 Fed. Reg. 28,357 (May 18, 2001).

30. See Associated Press, *Norton Calls for Tripling Gas Permits in Wyoming*, BILLINGSGAZETTE.COM (Jan. 21, 2004), <http://www.billingsgazette.com/newdex.php?display=rednews/2004/01/21/build/wyoming/40-nortongaspermits.inc>.

31. See *Examination of Oil and Gas Activities by the Bureau of Land Management: Hearing Before the Subcomm. on Interior and Related Agencies of the S. Comm. on Appropriations*, 109th Cong. 14 (2005) (statement of Kathleen Clarke, Director, Bureau of Land Mgmt., U.S. Dep't of the Interior) [hereinafter Clarke], <http://appropriations.senate.gov/hearings/october252005BLMDirectorSenateAppropsHearingOilandGasFINAL.htm>; U.S. GOV'T ACCOUNTABILITY OFFICE, OIL AND GAS DEVELOPMENT: INCREASED PERMITTING ACTIVITY HAS LESSENED BLM'S ABILITY TO MEET ITS ENVIRONMENTAL PROTECTION RESPONSIBILITIES,

concentrated in five intermountain states—Colorado, Montana, New Mexico, Utah and Wyoming.”³²

CBM methane production in the United States has skyrocketed in the past decade. Between 1992 and 2004, total domestic CBM production has increased from 1.5 billion cubic feet (Bcf) to an astounding 1.7 Tcf, accounting for nine percent of U.S. dry natural gas production.³³ To date, the San Juan Basin in Southern Colorado and Northern New Mexico has been the most productive source of CBM.³⁴ However, the Powder River Basin in Southeastern Montana and Northeastern Wyoming has become the fastest growing CBM play in America.³⁵ According to industry scholars, “the Rocky Mountains are a Persian Gulf of gas.”³⁶

In its Final Environmental Impact Statement (EIS) for the Powder River Basin Oil and Gas Project, the BLM’s Reasonably Foreseeable Development (RFD) Scenario “forecasts an estimated 51,000 CBM wells in the EIS area over the next 10 years. About 25 Tcf of CBM may be recoverable from coal beds in the [Powder River Basin] within Wyoming [alone].”³⁷

In a very short period of time, government and industry perceptions of CBM have shifted from “waste” to “haste.” As with other extractive industries, CBM developers must abide by an array of environmental protection laws and regulations. This Comment will illustrate the statutory and regulatory scheme governing CBM development, legal challenges to agency action impacting water and surface uses, and development-policing solutions for our overburdened land management agencies as they “hasten” to develop the federal mineral estate in the intermountain West.

GAO-05-418, at 17 (2005) [hereinafter GAO Permitting], available at <http://www.gao.gov/new.items/d05418.pdf>.

32. GAO Permitting, *supra* note 31, at 17.

33. See ENERGY INFO. ADMIN., U.S. DEP’T OF ENERGY, NATURAL GAS PROCESSING: THE CRUCIAL LINK BETWEEN NATURAL GAS PRODUCTION AND ITS TRANSPORTATION TO MARKET 2 n.8 (2006), http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2006/ngprocess/ngprocess.pdf (last visited Mar. 23, 2006); Bryner, *supra* note 10, at 6.

34. See Bryner, *supra* note 10, at 7.

35. *Id.* at 8.

36. ROCKY MOUNTAIN ENERGY COUNCIL, WHITE HOUSE TASK FORCE ON ENERGY PROJECT STREAMLINING, WHITE PAPER (2003) [hereinafter WHITE PAPER], http://www.etf.energy.gov/pdfs/RMEC_WhitePaper.pdf (last visited Mar. 4, 2006) (quoting Colorado School of Mines geologist Fred M. Meissner).

37. 1 BUREAU OF LAND MGMT., U.S. DEP’T OF INTERIOR, WY-070-02-065, POWDER RIVER BASIN OIL AND GAS FINAL ENVIRONMENTAL IMPACT STATEMENT AND PROPOSED PLAN AMENDMENT, at xxiii (2003), available at http://www.wy.blm.gov/nepa/prb-feis/Vol_1/front3.pdf.

III. NEW ENERGY, NEW CHALLENGES: REGULATING CBM DEVELOPMENT

A. *Federal Regulation—Environmental Protection and Land Management*

1. NEPA, FLPMA, and Land Use

The National Environmental Policy Act (NEPA) of 1969 was the pinnacle of American legislative acknowledgement of the need to protect our environment for the benefit of current and future generations.³⁸ NEPA was enacted to reflect congressional “recogni[tion] of the profound impact of man’s activity on the interrelations of all components of the natural environment, [and] . . . the critical importance of restoring and maintaining environmental quality to the overall welfare . . . of man.”³⁹ In order to execute the policies set forth in NEPA, the federal government was tasked with using “all practicable means . . . to improve and coordinate Federal plans, functions, programs, and resources” so that it may fulfill its duty as “trustee of the environment for succeeding generations.”⁴⁰ In addition, NEPA emphasized an interest in attaining the “widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences.”⁴¹

NEPA “prescribes the necessary process by which federal agencies must take a hard look at the environmental consequences of the proposed courses of action.”⁴² Above all, NEPA was created “to ensure a fully informed and well-considered decision,” especially when proposed activity may “significantly [affect] the quality of the human environment.”⁴³ To this end, agencies must prepare an environmental impact statement (EIS) in which potential environmental impacts of a proposed action are evaluated and compared with the impacts of alternatives to such action.⁴⁴ However, a less detailed environmental assessment (EA) will suffice, if the agency considers its findings to be sufficient to support a finding of no significant impact (FONSI).⁴⁵ Moreover, an agency may rely on an existing EIS for a new proposed

38. See NEPA § 101(a), 42 U.S.C. § 4331(a) (2000).

39. *Id.*

40. NEPA § 101(b)(1), 42 U.S.C. § 4331(b)(1).

41. NEPA § 101(b)(2), 42 U.S.C. § 4331(b)(2).

42. *Pennaco Energy, Inc. v. U.S. Dep’t of Interior*, 377 F.3d 1147, 1150 (10th Cir. 2004).

43. NEPA § 102(2)(C), 42 U.S.C. § 4332(2)(C); *Wyo. Outdoor Council*, 153 I.B.L.A. 259, 264 (Dep’t of Interior Oct. 15, 2002).

44. *Pennaco*, 377 F.3d at 1150.

45. *Id.*

action, as long as it has taken a hard look at possible environmental consequences.⁴⁶ Again, NEPA merely requires that agency action is well-informed and does not impose “substantive limits on agency conduct.”⁴⁷ In other words, by focusing government and public attention on the environmental effects of proposed agency action, NEPA’s procedural requirements ensure that an agency will not act on incomplete information, only to regret its decision later when nothing can be done to correct it.⁴⁸

In an effort to foster balanced stewardship of America’s public lands, Congress approved the Federal Land Policy and Management Act (FLPMA) in 1976.⁴⁹ FLPMA established two broad land management goals designed to guide federal land management agencies, primarily the DOI, in their role as stewards of the Nation’s public lands.⁵⁰ The first goal of “multiple use” management directs the agencies, through FLPMA-mandated inventories and land use plans (LUPs), to balance the “various [public lands] resource values so that they are utilized in the combination that will best meet the present *and future* needs of the American people.”⁵¹ These values include, but are not limited to, “recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values.”⁵² The second goal of “sustained yield” orders agencies to control depleting natural resource uses over time, so as to ensure a high level of valuable uses in the future.⁵³

As part of multiple use management, DOI must develop, maintain, and revise LUPs—public declarations of proposed uses by tract.⁵⁴ An LUP, what BLM regulations call a “resource management plan” (RMP), is a written document that establishes, for a particular area, allowable uses, goals for future condition of the land, and specific next steps.⁵⁵ Following a mandatory period of public notice and comment, and if approved, an LUP will serve as a roadmap for future actions and for

46. *Id.* at 1151; *Kelpe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976) (stating “the only role for a court is to insure that the agency has taken a ‘hard look’ at environmental consequences”).

47. *Pennaco*, 377 F.3d at 1150.

48. *See* *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 371 (1989).

49. *See* FLPMA §§ 102-603, 43 U.S.C. §§ 1701-1785 (2000).

50. FLPMA § 102(a)(7), 43 U.S.C. § 1701(a)(7).

51. FLPMA § 103(c), 43 U.S.C. § 1702(c) (emphasis added).

52. *Id.*

53. FLPMA §§ 103(h), 43 U.S.C. § 1702(h).

54. FLPMA §§ 202(a), 43 U.S.C. § 1712(a).

55. BLM Planning Rule Definitions, 43 C.F.R. § 1601.0-5(k) (2004).

development of more detailed and limited-scope plans.⁵⁶ Pursuant to FLPMA and agency regulations, BLM must manage all public lands under the “principles of multiple use and sustained yield, and in accordance with land use plans.”⁵⁷

2. Judicial Review of Agency Action: BLM Accountability in Question

Development of coalbed methane resources on public lands, like all competing uses, must conform with BLM RMPs.⁵⁸ RMPs are regularly revised or amended as federal priorities for land use change.⁵⁹ In this instance, when a proposed new action would require the completion of a NEPA EIS, or when new information about a proposed action raises significant environmental concerns, BLM regulations require supplementation of an existing EIS with a Supplemental Environmental Impact Statement (SEIS).⁶⁰ However, “courts have upheld the use of non-NEPA procedures for the purpose of determining whether new information or changed circumstances require the preparation of a supplemental EA or EIS.”⁶¹

Oil and gas development on federal lands has become a top priority for DOI.⁶² In its regular course of business, BLM, in accordance with RMPs, holds quarterly competitive-bid lease sales of tracts of public land with oil and gas potential.⁶³ According to its FLPMA and NEPA obligations, BLM must consider environmental impacts not only during the creation of RMPs but again at the implementation stage, as initial purported uses may have been altered significantly.⁶⁴

56. *Id.* § 1601.0-2. RMPs are “designed to guide and control future management actions.” *Id.*

57. *Id.* § 1732(a).

58. *See* Bryner, *supra* note 10, at 24.

59. *See* Pennaco v. Energy, Inc. v. U.S. Dep’t of Interior, 377 F.3d 1147, 1152-53 (10th Cir 2004).

60. *Id.* at 1151; 40 C.F.R. § 1502.9(c)(1)(i)-(ii) (2005) (requiring SEIS when “the agency makes substantial changes in the proposed action that are relevant to environmental concerns,” or when “there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts”).

61. *Pennaco*, 377 F.3d at 1151; *see* Marsh v. Or. Natural Res. Council, 490 U.S. 360, 383-85 (1989) (upholding decision of Army Corps of Engineers to proceed with project without supplementing existing EIS, instead relying on a “supplemental information report” to analyze significance weight of new reports questioning environmental impact of project).

62. *See* Associated Press, *supra* note 30. *See generally* Bryner, *supra* note 10, at 24 (stating BLM is the “principal agency responsible for managing the mineral estate on all federal lands”).

63. *See* HUMPHRIES, *supra* note 17, at 3.

64. *See id.*

The United States Court of Appeals for the Tenth Circuit's decision in *Pennaco Energy, Inc. v. U.S. Department of Interior* served as a warning sign to BLM that it may not circumvent its duty under NEPA to undertake careful environmental analysis and develop alternatives for consideration before proceeding with actions that may be harmful to the public domain.⁶⁵ In April 2002, the United States Department of the Interior Board of Land Appeals (IBLA) reversed a BLM oil and gas lease sale of three parcels of land in Wyoming and remanded the matter to BLM for "additional appropriate action" that it had not taken prior to leasing.⁶⁶ IBLA *held*:

The existing NEPA documents relied upon by BLM, whether viewed separately or taken together, [did] not constitute the requisite hard look at the environmental consequences of the proposed action, [and] BLM was required to conduct further NEPA analysis before deciding whether to approve the sale of the parcels at issue.⁶⁷

Two years later, BLM faced another challenge in *Pennaco*.⁶⁸ In 1999, the acting manager for the BLM Buffalo (Wyoming) Field Office Richard Zander prepared Interim Documentation of Land Use Conformance and NEPA Adequacy worksheets (DNAs) for the parcels nominated for leasing.⁶⁹ DNAs are procedural tools used by BLM employees to determine whether they may rely on existing NEPA documents when approving action in an area where the original RMP/EIS did not contemplate such uses.⁷⁰ Zander concluded that the 1985 Buffalo RMP EIS accompanied by the 1999 Wyodak Coal Bed Methane Project Draft EIS (DEIS) satisfied BLM's NEPA obligations with regard to the proposed leasing of parcels for CBM development.⁷¹ Consequentially, BLM auctioned and awarded the leases in 2000 to the winning bidder, Pennaco Energy.⁷²

IBLA is the reviewing authority for BLM decisions, and in this capacity issues DOI's final, binding decisions.⁷³ Its primary obligation is to determine whether BLM has acted in accordance with applicable

65. See *Pennaco Energy*, 377 F.3d at 1159.

66. See Wyo. Outdoor Council, 156 I.B.L.A. 347, 359 (Apr. 26, 2002)

67. *Id.*

68. See *Pennaco*, 377 F.3d at 1150.

69. *Id.* at 1152.

70. *Id.*

71. *Id.*

72. *Id.*

73. *Id.* at 1156 n.5.

statutory and regulatory authorities.⁷⁴ Judicial review of IBLA's decision to overturn BLM's lease sale (the IBLA decision) was performed in this case by the United States Court of Appeals for the Tenth Circuit according to the "arbitrary and capricious" standard of the Administrative Procedure Act.⁷⁵

According to the Tenth Circuit, "the hotly contested issue underlying this case is whether the environmental impacts of CBM development are significantly different than the environmental impacts of non-CBM oil and gas development."⁷⁶ The 1985 Buffalo RMP EIS evaluated potential impacts of general oil and gas leasing, and based on that analysis, "authorized the continued leasing and development of Federal oil and gas in the Buffalo Resource Area."⁷⁷ The RMP/EIS did not, however, evaluate impacts of CBM development because it was not a contemplated land use in 1985.⁷⁸ BLM provided additional support for its decision to lease by citing a more recent study, the Wyodak DEIS, that, unlike the Buffalo EIS, addressed issues related to CBM development.⁷⁹ However, the Wyodak DEIS was a project level *post*-leasing study in which BLM did not consider "whether leases should have been issued in the first place."⁸⁰ Summarizing the basis for IBLA's decision to remand the BLM lease sale, the court reiterated that "agencies are required to satisfy the NEPA 'before committing themselves irretrievably to a given course of action, so that the action can be shaped to account for environmental values.'"⁸¹ The court stipulated that IBLA "gave due consideration to the relevant factors and that the IBLA's conclusion was supported by substantial evidence in the administrative record."⁸² Thus, the court *held* that "IBLA's determination that more analysis was required in this case was not arbitrary and capricious."⁸³

Therefore, if impacts flowing from CBM development are significantly different from conventional oil and gas development, BLM

74. *See id.*; Wyo. Outdoor Council, 156 I.B.L.A. 347, 359 (Apr. 26, 2002) (finding BLM's reliance on existing documents inadequate to satisfy requisite "hard look" at environmental consequences under NEPA).

75. APA § 10(e), 5 U.S.C. § 706(2)(A) (2000).

76. *Pennaco*, 377 F.3d at 1152.

77. Wyo. Outdoor Council, 156 I.B.L.A. at 357-58.

78. *Id.* at 358.

79. *See id.*

80. *Pennaco*, 377 F.3d at 1152.

81. *Id.* at 1159 (quoting *Sierra Club v. Hodel*, 848 F.2d 1068, 1093 (10th Cir. 1988) (emphasis added)).

82. *Id.* at 1156.

83. *Id.* at 1162.

was obligated by NEPA, and more broadly by FLPMA, to conduct further NEPA analysis before offering lands for leasing.⁸⁴ Obviously, the effects of industry and political pressure on BLM decisions in the intermountain West are well represented by the underlying dispute in *Pennaco*. The “hasty” decision by BLM to lease land for CBM development before adequately satisfying NEPA and the policy goals of FLPMA is representative of a “drill first, ask questions later” mentality that pervades nearly every agency tasked with CBM oversight.

B. Why Is CBM Development So Controversial?

Major controversies surrounding CBM development in the intermountain West can be summarized as subsets of overarching problems associated with the rapid pace of development, and the potential for severe and persistent impacts to natural resources. There is an interplay between these issues as the pace of development, in many cases, appears to exacerbate impacts on resources.

CBM production has increased substantially due to tax incentives and the unique characteristics of CBM production when compared with conventional natural gas production.⁸⁵ According to Gary Bryner of the Natural Resources Law Center at the University of Colorado School of Law, “since coalbed methane wells are typically shallow (less than 4,000 feet) and on land, well costs are low to moderate in comparison with conventional natural gas.”⁸⁶ Moreover, due to the immense cost of offshore oil and gas production as well as those associated with refining conventional sour (sulfur-laden) gas, onshore gas plays that are highly predictable, free of sulfur, and require comparably little investment attract a wide variety of operators, both large and small.⁸⁷ Considering the relative ease with which CBM can be produced, opportunities are necessarily abundant with few barriers to entry into the production market.⁸⁸ However, environmental impact mitigation measures moderate the attractiveness of CBM development, and unlike conventional gas operations, CBM producers are unable to cap producing wells in response to short-term price fluctuations as the coal may refill with water.⁸⁹

84. *See id.*; *Wyo. Outdoor Council*, 156 I.B.L.A. at 359.

85. *See* Bryner, *supra* note 10, at 6.

86. *Id.*

87. *See id.* at 4, 11.

88. *See id.* at 3-7.

89. *Id.* at 7.

As previously noted, CBM production involves the pumping of large quantities of water from coal seams.⁹⁰ Although “produced water” typically contains any number of chemicals and metals, its primary negative characteristic is its salinity.⁹¹ Produced water varies in salinity according to factors such as geographic and geologic location and bed depth.⁹² As coalbed depth increases, water volume decreases while salinity levels increase.⁹³ High-salinity produced water can cause soil damage and erosion and can severely impact the livelihood of ranchers and farmers who use river water and groundwater from wells to irrigate their crops and hydrate their livestock.⁹⁴ Moreover, produced water can permanently alter the chemical composition of nearby rivers and streams and destroy native vegetation, including grasses on which livestock depend for nutrition, if it is not managed properly.⁹⁵

The quantity of produced water is likely a greater concern than issues of water quality. In 2002, CBM production resulted in water discharges of 602 million barrels annually, or 1.65 million barrels per day.⁹⁶ In the Colorado portion of the San Juan Basin, CBM development had extracted nearly 36 billion gallons of water as of July 2002.⁹⁷ In fact, in the Wyoming portion of the Powder River Basin, “approximately 51,000 wells will have produced over 1.4 trillion gallons of water” in the next fifteen years.⁹⁸ Serious concerns over the depletion of underground aquifers in the semi-arid climate of the intermountain West continue to plague regulators, producers, and local agrarians and residents.⁹⁹ According to Bryner, “given the scarcity of water in the West, virtually any production of water that is not put to beneficial or that might affect water quantity or water supply and rights is controversial.”¹⁰⁰ Also, “[g]iven the aridity of the West, the region’s water is at least as valuable as its natural gas.”¹⁰¹ Given the importance of water resources to westerners, regulators and producers have concentrate on developing beneficial uses for CBM-produced water. Depending on the quality of

90. *N. Plains Res. Council v. Fid. Exploration & Dev. Co.*, 325 F.3d 1155, 1158 (9th Cir. 2003).

91. *Id.*

92. Bryner, *supra* note 10, at 13-14.

93. *Id.* at 3.

94. *See id.* at 16.

95. *See id.*

96. HUMPHRIES, *supra* note 17, at 18.

97. *See* Bryner, *supra* note 10, at 13.

98. *Id.*

99. *See id.*

100. *Id.*

101. *Id.* at 16.

produced water, beneficial use may be achieved through reinjection into disposal wells, irrigation, livestock hydration, and aquifer recharge.¹⁰² However, as discussed *infra*, there remains significant disagreement over the adequacy of produced water for beneficial use.

C. Federal Regulation—Protecting Water Through Pollution Control

1. The Clean Water Act and State Waters

Commonly referred to as the Clean Water Act (CWA), the Federal Water Pollution Control Act, as amended in 1977, was an expression of Congress's desire to empower states to prevent, reduce, and eliminate pollution and to plan the development and use of land and water resources, in conjunction with federal authority vested in the United States Environmental Protection Agency.¹⁰³ The purpose of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."¹⁰⁴ To this end, water quality standards established by the CWA, enforced by State entities and supervised by the EPA, include "pollution limits, anti-degradation requirements beyond water quality standards, and total maximum daily loads—maximum daily pollutant discharges that are assigned to point and non point sources to ensure total pollution levels are not exceeded."¹⁰⁵ The CWA further established discharge permitting programs for the disposal of pollutants and dredge and fill material into the waters of the United States as mechanisms to maintain state and national water quality standards.¹⁰⁶

The discharge permit dictates effluent limits for operations.¹⁰⁷ However, limits prescribed in EPA guidelines were drafted before the CBM boom in the West.¹⁰⁸ Major concerns over salinity, total dissolved solids, and metals levels in CBM produced water are not addressed in the current EPA regulations.¹⁰⁹ Presently, EPA's Region 8 is revamping effluent limitations on discharges, basing them on technology that is available and economically prudent for CBM activities in the intermountain West.¹¹⁰

102. *See id.*

103. ENVTL. PROT. AGENCY, CLEAN WATER ACT, <http://www.epa.gov/t5water/cwa.htm> (last visited Mar. 2, 2006); *see* FWPCA § 101(b), 33 U.S.C. § 1251(b) (2000).

104. FWPCA § 101(a), 33 U.S.C. § 1251(a).

105. Bryner, *supra* note 10, at 25.

106. *See* FWPCA §§ 402, 404; 33 U.S.C. §§ 1342, 1344.

107. Sharon Buccino & Steve Jones, *Controlling Water Pollution From Coalbed Methane Drilling: An Analysis of Discharge Permit Requirements*, 4 WYO. L. REV. 559, 565 (2004).

108. *Id.* at 565-66.

109. *Id.* at 566.

110. *Id.*

There is an intricate interplay between State Departments of Environmental Quality (DEQs) and the EPA since Congress intended the CWA to be administered by the States, and State DEQ regulations and federal regulations concerning discharge into State waters have diverged.¹¹¹ Nonetheless, as States certify discharge activities, their requirements are infused into a federal permit and are enforceable by the permitting agency—BLM, Forest Service, or EPA.¹¹²

2. Judicial Review of Agency Action

a. Produced Water Is a Pollutant

In 2003, the United States Court of Appeals for the Ninth Circuit *held* that CBM produced water (CBM water) is a pollutant pursuant to the CWA.¹¹³ Viewed as a victory for farmers and ranchers, the decision has prompted the Montana Board of Environmental Review to consider adoption of sodium and salinity standards for rivers receiving CBM wastewater.¹¹⁴

Since 1997, Fidelity Exploration and Development Co. (Fidelity) has explored and developed CBM from coal seams in the Powder River Basin, Montana.¹¹⁵ Prior to the court's ruling, Fidelity regularly discharged the unaltered CBM water into the Tongue River.¹¹⁶ As noted *supra*, unaltered CBM water contains a variety of solids, including chemical compounds, metals, and salts.¹¹⁷ In general, levels of sodium in CBM water are measured by their Sodium Absorption Ratio (SAR).¹¹⁸ The SAR of the produced water discharged by Fidelity was on average forty to sixty times greater than the background SAR of the Tongue River and Squirrel Creek.¹¹⁹ Farmers and ranchers who use water from the Tongue River and Squirrel Creek remained deeply concerned with produced water because of the dangers the salty water poses to soil structure.¹²⁰ "High SAR water, such as CBM water, causes soil particles to unbind and disperse, destroying soil structure and reducing or

111. See *N. Plains Res. Council v. Fid. Exploration & Dev.*, 325 F.3d 1155, 1158-59 (9th Cir. 2003).

112. See *id.* at 1159.

113. *Id.* at 1163.

114. Joe Truini, *No Flow in Mont.; Court Puts Clamps on Natural Gas Developers Discharging Wastewater*, WASTE NEWS, May 12, 2003, at 16.

115. *N. Plains Res. Council*, 325 F.3d at 1158.

116. *Id.*

117. See *id.*

118. *Id.*

119. *Id.*

120. *Id.*

eliminating the ability of the soil to drain water.”¹²¹ CBM water produced by Fidelity wells, though likely disastrous to crops, was of sufficient quality for use in ranching operations by Fidelity’s grazing lessee in the form of livestock watering ponds and stock tanks.¹²²

The central dispute in this case arose between the Montana DEQ (MDEQ) and EPA.¹²³ In 1998, Fidelity contacted MDEQ about discharging CBM water into the Tongue River and Squirrel Creek.¹²⁴ MDEQ replied that under Montana law, the discharge was exempt from water quality permitting because “discharge to surface water of groundwater that is not altered from its ambient quality does not” require permitting unless it contains industrial waste or causes the receiving waters to exceed water quality standards.¹²⁵ MDEQ also acknowledged that EPA does not agree with the Montana Water Quality Act permit exclusion.¹²⁶ EPA contacted MDEQ and stressed that their permit exclusion was contrary to the CWA’s National Pollutant Discharge Elimination System (NPDES).¹²⁷ MDEQ responded, arguing “the exemption is consistent with federal requirements governing NPDES programs because discharges of unaltered, natural groundwater do not contain ‘pollutants’ as that term is defined under the Clean Water Act.”¹²⁸

Even after learning their discharges were exempt under Montana law, Fidelity filed NPDES permit applications, and immediately began to discharge CBM water into local waterways without a CWA permit.¹²⁹ Northern Plains Resource Council (NPRC) then filed a citizen suit pursuant to Section 1365 of the CWA alleging unpermitted discharges into Squirrel Creek and the Tongue River.¹³⁰ Violation of the CWA has occurred when a party has abridged the effluent limitations of the CWA and thereby compromised water quality standards.¹³¹ The alleged violator must have discharged a pollutant from a point source to a navigable body of water without a permit.¹³² Having stipulated to four of these five elements, the parties agreed that the only element at issue was whether

121. *Id.*

122. *Id.*

123. *See id.* at 1159.

124. *Id.* at 1158.

125. *Id.* at 1158-59.

126. *Id.* at 1159.

127. *Id.* at 1158.

128. *Id.*

129. *Id.*

130. *See id.*; FWPCA § 505, 33 U.S.C. § 1365 (2000).

131. *See Buccino & Jones, supra* note 107, at 566.

132. *N. Plains Res. Council*, 325 F.3d at 1159-60.

CBM water constitutes a pollutant.¹³³ The United States District Court for the District of Montana held that CBM was not a pollutant and granted summary judgment to Fidelity.¹³⁴

Although the CWA includes “industrial waste” in its definition of pollutant, the statute expressly divorces “water derived in association with oil or gas production and disposed of in a well” from the list of pollutants that are regulated under the Act.¹³⁵ The Ninth Circuit, citing federal court precedent, determined that CBM water is an industrial waste because it is “any useless byproduct derived from the commercial production and sale of goods and services.”¹³⁶

Further supporting its position, the court concluded that CBM water is a pollutant by virtue of being “produced water” derived from gas extraction.¹³⁷ “The CWA contemplates that produced water, as defined by EPA regulations, is a pollutant within the meaning of the Act.”¹³⁸ Under the Act, water produced from gas extraction may be exempted from regulation *only* when the produced water is disposed of in a well and will not result in the degradation of other water bodies.¹³⁹ Admittedly, Fidelity discharged briny CBM water into the surface waters of the Tongue River and Squirrel Creek since January 1999.¹⁴⁰ Therefore, the court held that the discharge was a pollutant under the CWA and subject to NPDES permitting requirements.¹⁴¹

As the court’s opinion progressed and its rationale congealed, the core disagreement over interpretation of the meaning of “pollutant” as defined in the CWA became clear.¹⁴² The district court determined that CBM water was not a pollutant under the CWA because Fidelity did not alter the water before discharging.¹⁴³ The perception of CBM water as being unaltered, naturally occurring, and untransformed by human activity, was the foundation of Fidelity’s defense and the district court’s rationale for summary judgment as well.¹⁴⁴ However, the Ninth Circuit

133. *See id.* at 1160.

134. *Id.*

135. *Id.*

136. *Id.* at 1161; *Sierra Club, Lone Star Chapter v. Cedar Point Oil Co.*, 73 F.3d 546, 568 (5th Cir. 1996) (concluding “produced water” is encompassed in “industrial waste”); *Umatilla Waterquality Protective Ass’n v. Smith Frozen Foods, Inc.*, 962 F. Supp. 1312, 1322 (D. Or. 1997) (holding that brine residues are industrial waste and therefore pollutants).

137. *N. Plains Res. Council*, 325 F.3d at 1161.

138. *Id.*

139. *Id.*

140. *See id.*

141. *Id.*

142. *See id.* at 1162-63.

143. *Id.* at 1162.

144. *Id.*

illustrated the flaw in this reasoning, showing that “the goal of the CWA is to protect receiving waters, not to police the alteration of the discharged water.”¹⁴⁵ From this vantage, the court argued that pollution, introduced by man into waters of the United States, does not change if man has altered the discharge or simply introduced naturally occurring water into a waterway.¹⁴⁶ The dispositive factor was that the CBM water would not have flowed into the Tongue River but for Fidelity’s methane extraction processes.¹⁴⁷ If Fidelity’s interpretation of legal precedent were to stand, “it would allow someone to pipe the Atlantic Ocean into the Great Lakes and then argue there is no liability under the CWA because the salt water . . . was not altered before being discharged into the fresh water.”¹⁴⁸

The Ninth Circuit then turned to the issue of whether Montana state law may provide an exception, relieving an operator of the permitting obligations of the CWA.¹⁴⁹ In one broad stroke, the court overruled the lower court’s grant of summary judgment with a forceful reminder that no enforcement authority is above the rule of federal law.¹⁵⁰ Congress is the sole authority vested with the power to grant exceptions from regulation, and may do so by amending the CWA.¹⁵¹ And though courts will afford “*Chevron* deference” to agency action, the Ninth Circuit, citing *United States v. Mead*, noted that *Chevron* deference is not warranted where the agency had no authority to act.¹⁵² To date, Congress has not granted the EPA the authority to create exceptions to the CWA.¹⁵³ Furthermore, a Montana statute adopting a clean water standard that is less stringent than the CWA runs afoul of the Supremacy Clause of the Constitution of the United States.¹⁵⁴

145. *Id.*

146. *Id.*

147. *Id.*

148. *Id.* at 1163.

149. *Id.* at 1164-65.

150. *Id.*

151. *Id.* at 1164.

152. *See id.* at 1164-65 (citing *United States v. Mead*, 533 U.S. 218, 226-27 (2001) (applying *Chevron* deference to agency action only when Congress explicitly or impliedly gave the agency authority to fill certain gaps left by Congress).

153. *See id.* at 1164 n.4.

154. *See id.* at 1165 (citing *Nat’l Audubon Soc’y, Inc. v. Davis*, 307 F.3d 835, 851 (9th Cir. 2002) (recognizing that the Supremacy Clause “invalidates state laws that ‘interfere with, or are contrary to,’ federal law”).

b. Agencies Again Running Roughshod over NEPA

The Ninth Circuit's ruling in *Fidelity* is representative of a series of court opinions that have tightened judicial scrutiny of CWA permitting procedures. Just as CBM operators must obtain permits to discharge produced wastewater, the CWA also regulates the disposal of dredged and fill materials, usually soils and gravels, that are produced during the course of energy development.¹⁵⁵ Similar to the NPDES permitting system, the CWA tasks the United States Army Corps of Engineers (Corps) with administering a permitting program for discharges of dredged and fill material into the waters of the United States so as to protect aquatic ecosystems and the surrounding environment from undue and irreparable degradation.¹⁵⁶

Pursuant to the authority granted by section 404(e) of the CWA the Corps may issue general permits on a State, regional, or nationwide basis for any category of activities involving discharges of dredged or fill material.¹⁵⁷ With this instrument, the Corps is able to mitigate the permitting burden on agency field offices while addressing the needs of a large number of operators.¹⁵⁸ To comply with CWA regulations, the "category of activities" covered by a general permit must be similar in nature and similar in their impact upon water quality and the aquatic environment, have only minimal adverse effects when performed separately, and have only minimal cumulative adverse effects on water quality and the aquatic environment.¹⁵⁹

In the most recent judicial opinion concerning the discharge of waste from CBM operations, the United States District Court for the District of Wyoming considered a petition for review of the Corps decision to issue General Permit 98-08 (GP 98-08), a CWA general permit authorizing discharges of dredged and fill materials associated with several activities related to energy development in Wyoming.¹⁶⁰ The permit covered activities such as surveys, roads, well pads, utilities, reservoirs, erosion control, hazardous waste cleanup, and mitigation as they related to oil and gas exploration and development.¹⁶¹ The Wyoming Outdoor Council (WOC) petitioned the court to review whether the

155. See *Wyo. Outdoor Council v. U.S. Army Corps of Engineers*, 351 F. Supp. 2d 1232, 1237 (D. Wyo. 2005).

156. See FWPCA § 404, 33 U.S.C. § 1344 (2000); CWA Guidelines for Dredged or Fill Material Permitting, 40 C.F.R. § 230.1(c)-(d) (2005).

157. FWPCA § 404(e), 33 U.S.C. § 1344(e).

158. See *id.*

159. 40 C.F.R. § 230.7(a)(1-3).

160. *Wyo. Outdoor Council*, 351 F. Supp. 2d at 1237.

161. *Id.*

Corps violated NEPA by failing to consider the broad range of impacts that may result from issuance of the permit while relying on dubious mitigation measures to support a FONSI and EA, and whether the Corps violated the CWA by failing to satisfy its regulatory obligations in regard to general permit issuance.¹⁶² Accordingly, the court the first reviewed the administrative record to determine whether the Corps acted arbitrarily and capriciously in concluding that the proposed action would not have a significant effect on the human environment.¹⁶³

The Corps averred that it considered cumulative impacts to wetlands prior to issuance of GP 98-08, and that its assessment supported a finding of no significant impact.¹⁶⁴ However, the court vehemently rebuked the assertion by highlighting the fact that NEPA's implementing regulations require agencies to assess the significance of impacts flowing from the proposed action, an exercise that requires consideration of both context and intensity.¹⁶⁵ Intensity, the court noted, involves an assessment of whether the action is related to other actions with individually insignificant but cumulatively significant impacts.¹⁶⁶ "Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment."¹⁶⁷ The court then cited *Pennaco*, stressing that NEPA must be satisfied *before* an irrevocable commitment to action is made.¹⁶⁸

In June 2000, the Corps issued a Combined Decision Document (CDD) along with GP 98-08 which purported to comply with NEPA and CWA requirements for issuance of general permits.¹⁶⁹ The court reviewed the CDD and concluded the Corps was arbitrary and capricious in failing to consider cumulative impacts to nonwetland resources and impacts to private ranchlands. Further, in regard to the issuance of a FONSI, the court expressed contempt for the agency's reliance on mitigation measures that "while mandatory, [were] not supported by a

162. *Id.* at 1238.

163. *Id.*

164. *See id.* at 1242.

165. *See id.* at 1240 (citing NEPA Regulation Terminology Rule, 40 C.F.R. § 1508.27 (2005)).

166. *Id.* at 1240-41 (citing 40 C.F.R. § 1508.27(b)).

167. *Id.* at 1241 (citing 40 C.F.R. § 1508.27(b)(7)); *see also* 40 C.F.R. § 1508.7. Section 1508.7 defines cumulative impact as "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

168. *Wyo. Outdoor Council*, 351 F. Supp. 2d at 1243 (citing *Pennaco Energy, Inc. v. U.S. Dep't of Interior*, 377 F.3d 1147, 1159 (10th Cir. 2004)).

169. *Id.* at 1237.

single scientific study, paper, or even a comment.”¹⁷⁰ Accordingly, the court found the Corps arbitrary and capricious on yet another count.¹⁷¹ In short, the court found the Corps actions leading up to their issuance of GP 98-08 arbitrary and capricious on four different counts and remanded the matter to the agency for further study of associated *cumulative* environmental impacts and a reassessment of its FONSI.¹⁷²

IV. THE SPLIT ESTATE: THE STRUGGLE TO BALANCE THE NEEDS OF MANY WITH THE RIGHTS OF FEW

A. *Introduction To Split-Estate: Coal Lands and Stock-Raising Homestead Acts*

Upon further review of *Wyoming Outdoor Council*, the most striking example of agency malfeasance may have been the Corps failure to consider impacts to private ranchlands “in light of the concerns voiced in the record.”¹⁷³ The Corps capital default in regard to its evaluation of private ranchlands was that its CDD failed to take into account the complications that frequently arise when CBM activities encroach upon the livelihood of the surface owner in a split-estate.¹⁷⁴

A split-estate is one in which the surface and minerals are owned and controlled by different parties.¹⁷⁵ The split-estate originated with the passage of the Homestead and Coal Lands Acts of the 1860s, through which “Congress sought to encourage the settlement of the West by providing land in fee simple absolute to homesteaders who entered and cultivated tracts of a designated size for a period of years.”¹⁷⁶ By 1900, however, western coal shortages and fraudulent administration of lands designated for coal use precipitated radical policy shifts by the Executive.¹⁷⁷ Recognizing the need to protect public resources for the good of the country, President Theodore Roosevelt and Secretary of the Interior Garfield urged Congress to form a new system of land patenting that would separate “the surface from the coal” and ensure the “unhampered use of the surface for the purposes which it may be

170. *Id.* at 1251-52. The court noted that “[t]he Corps fail[ed] to point to a single shred of scientific evidence in the record to demonstrate that wetland replacement is a successful mitigation measure.” *Id.* The court then explained the sufficiency of mitigation measures as a basis of a finding of no significant impact. *Id.* at 1250.

171. *Id.* at 1252.

172. *Id.* at 1260.

173. *See id.*

174. *See id.* at 1245.

175. *Id.*

176. *Amoco Prod. Co. v. S. Ute Indian Tribe*, 526 U.S. 865, 868 (1999).

177. *Id.* at 868-70.

adapted.”¹⁷⁸ Through the 1909 and 1910 Coal Lands Acts, Congress, for the first time, authorized the federal government to issue limited patents of surface lands with a mineral reservation.¹⁷⁹ Finally, in 1916, Congress passed the Stock-Raising Homestead Act (SRHA), which applied to all lands deemed by DOI to be “chiefly valuable for grazing and raising forage crops,” and which reserved the entire mineral estate beneath those lands to the United States.¹⁸⁰ Congress intended “to encourage the concurrent development of both the surface and subsurface of SRHA lands” when it severed the surface estate from the mineral estate.¹⁸¹ In an effort to encourage exploration and development of minerals in SHRA lands, Congress reserved “all the coal and other minerals” to the United States and provided that “coal and other mineral deposits in such lands shall be subject to disposal by the United States in accordance with the provisions of the coal and mineral land laws in force at the time of such disposal.”¹⁸² However, there was a catch. The SRHA granted the holder of the mineral rights in a split-estate an unequivocal right to enter, reenter, and occupy, at his discretion, so much of the surface “for all purposes reasonably incident” to the development of mineral resources.¹⁸³ The vague language contained within the mineral rights reservation language of the SRHA, which remains the substantive law of split-estates, has led to the implicit recognition by courts that the mineral estate is dominant and the surface estate is servient.¹⁸⁴ In light of this distinction, surface owners have watched as their capacity to protect their land and livelihood has dwindled to the point of despair.

B. A Return to Wyoming Outdoor Council v. Army Corps of Engineers

The *Wyoming Outdoor Council* court was careful to note that the administrative record “voices the concerns of private surface owners in the Powder River Basin, the heartland of CBM production, that drilling companies, with general disregard for surface owners, are impacting their lands and their livelihoods.”¹⁸⁵ In fact, the court included in its opinion excerpts from letters sent to the Corps during the public comment phase

178. *Watt v. W. Nuclear, Inc.*, 462 U.S. 36, 48-49 (1983).

179. *Amoco Prod. Co.*, 526 U.S. at 870.

180. *Watt*, 462 U.S. at 49-50.

181. *Id.* at 50.

182. *See* Stock-Raising Homestead Act of 1916, 43 U.S.C. § 299(a) (2000).

183. *See id.*

184. *Wyo. Outdoor Council v. U.S. Army Corps of Engineers*, 351 F. Supp. 2d 1232, 1245 (D. Wyo. 2005); *Gerrity Oil & Gas Corp. v. Magness*, 946 P.2d 913, 927 n.8 (Colo. 1997).

185. *Wyo. Outdoor Council*, 351 F. Supp. 2d at 1246.

of the section 404 permitting process, illustrating the human impact of this particular failure to consider potential impacts of the issuance of dredged and fill material discharge permit issuance in CBM-producing areas.¹⁸⁶

Both letters sent by split-estate landowners complained of a general inability to affect the plans for development or impacts to their land caused by mineral leaseholders.¹⁸⁷ Both mention practices of cutting roughshod roads and large parcels for drilling sites, devaluation of surface property, and damage and noise caused by CBM development equipment.¹⁸⁸ One rancher even noted that CBM dewatering has damaged the aquifer on which he depends for domestic and livestock water.¹⁸⁹ Taken together, the personal accounts memorialized in the court's opinion reflect a total disregard for their rights as surface land owners by mineral leaseholders.

Thus, when the district court discovered that, in light of the aforementioned comments, the Corps had "reflect[ed] indifference to the interests of surface owners of split-estates" and summarily dismissed the reasonably foreseeable impacts to private ranchlands, they wasted no time in labeling these failures to act as arbitrary and capricious.¹⁹⁰ It is evident from the court's choice of language and palpable sense of insult that this type of behavior by the federal government will not be allowed to continue.¹⁹¹ The district court's concluding statement is so poignant both in regard to environmental protection as well as the rights of individuals "whose livelihood depends on the vitality and sustainability of the land" that it demands to be included here.¹⁹²

The Court is cognizant of the importance of mineral development to the economy of the State of Wyoming. Nevertheless, mineral resources should be developed responsibly, keeping in mind those other values that are so important to the people of Wyoming, such as preservation of Wyoming's unique natural heritage and lifestyle. The purpose of NEPA and the CWA is to require agencies, such as the Corps, to take notice of these values as an integral part of the decisionmaking process. This Court will not rubberstamp an agency determination that fails to consider cumulative impacts, fails to realistically assess impacts to ranchlands, and relies on

186. *Id.*

187. *Id.*

188. *Id.*

189. *Id.*

190. *Id.* at 1246-47.

191. *See id.*

192. *See id.* at 1246.

unsupported, unmonitored mitigation measures. NEPA and the CWA require more.¹⁹³

C. Modern Approaches to the Problem of Split-Estates

1. *Gerrity* and the Rise of the Accommodation Doctrine

Although the arcane provisions of the SRHA continue to govern the rights and responsibilities of mineral leaseholders in split-estates, those responsible for oil and gas regulation have finally begun to acknowledge and address the plight of the surface owner. The Supreme Court of Colorado, in a 1997 decision, clarified the practical reality of the split-estate in light of the long history of inequitable privileges for surface and mineral owners.¹⁹⁴

In *Gerrity Oil & Gas Corp. v. Magness*, the court addressed the relative rights of split-estate landowners and the “due regard” that each must have for the other in making use of the shared estate.¹⁹⁵ The court’s deceptively simple approach to the complex and long-standing discord between surface and mineral owners illustrated judicial conceptions of the modern split-estate. Surface owners, the court argued, are not without recourse when the actions of “mineral leaseholders destroy, interfere with, or damage the surface owner’s correlative rights to the surface.”¹⁹⁶ When these circumstances develop, the surface owner may bring an action in tort for trespass.¹⁹⁷ The litmus test for whether an operator has violated the rights of a surface owner, according to Colorado’s highest court, is the rule of reasonable surface use.¹⁹⁸ Because “[s]evered mineral rights lack value unless they can be developed,” the owner of a severed mineral estate is entitled to access the surface and “use only that portion that is reasonably necessary” to develop the mineral interest.¹⁹⁹ In this sense, the court reasoned, “the right of access to the mineral estate is in the nature of an implied easement”—a limited right of access.²⁰⁰ In other words, “the surface owner continues to enjoy all the rights and benefits of proprietorship consistent with the burden of the easement.”²⁰¹ Thus, the surface owner maintains full rights to surface

193. *Id.* at 1260.

194. *See* *Gerrity Oil & Gas Corp. v. Magness*, 946 P.2d 913, 926-27 (Colo. 1997).

195. *Id.* at 927.

196. *Id.* at 926-27.

197. *Id.*

198. *Id.* at 926.

199. *Id.*

200. *Id.* at 927.

201. *Id.*

use as long as such use does not preclude the exercise of the lessee's privilege.²⁰²

In a footnote to the opinion, the court officially recognized that, although the mineral estate has traditionally enjoyed the advantages of being the dominant estate, "in a practical sense, both estates are mutually dominant and mutually servient because each is burdened with the rights of the other."²⁰³ That is, both must exercise their rights "in a manner consistent with the other."²⁰⁴

The primary source of split-estate friction involves competing uses in an ownership scheme where neither party has any absolute right to exclude the other from the surface.²⁰⁵ The fundamental principle used by courts in their attempts to resolve this tension requires "each owner [t] have *due regard* for the rights of the other *in making use* of the estate in question."²⁰⁶ Referencing the Texas Supreme Court's opinion in *Getty Oil Co. v. Jones*, the court held that "this 'due regard' concept requires mineral rights holders to accommodate surface owners to the fullest extent possible consistent with their right to develop the mineral estate."²⁰⁷ Over time, the due regard concept became known as the "accommodation doctrine," and has served as the principal foundation of modern split-estate conflict resolution laws and guidelines.²⁰⁸

D. State and Federal Efforts To Accommodate Surface Owners of Split-Estates

For decades now, ranchers and farmers in the intermountain West, whose livelihood is entirely dependent on the SRHA lands that have been passed down to them through the generations, have awakened to a find

202. *Id.*

203. *Id.* at 927 n.8.

204. *Id.*

205. *See id.* at 927.

206. *See id.* (quoting *Grynberg v. City of Northglenn*, 739 P.2d 230, 234 (Colo. 1987) (emphasis added)).

207. *Id.* (quoting *Getty Oil Co. v. Jones*, 470 S.W.2d 618, 622 (Tex. 1971)).

208. The *Getty Oil* court concluded that the availability and use of an alternate method of oil production would serve the public policy of developing mineral resources while, at the same time, permitting the utilization of the surface for productive agricultural uses. *See Getty Oil*, 470 S.W.2d at 622-23. "Under such circumstances the right of the surface owner to an *accommodation* between the two estates may be shown," dependent on the relative burdens of such an accommodation on the parties. *Id.*; *see also* Wyoming Surface Owners Accommodation Act of 2005, WYO. STAT. ANN. § 30-5-402 (2005) ("The oil and gas operator shall first comply with the provisions of this act and *shall reasonably accommodate existing surface uses.*" (emphasis added)); *Roaring Fork Club, L.P. v. St. Jude's Co.*, 36 P.3d 1229, 1235 (Colo. 2001) ("[T]he direction of the law in Colorado has also been toward the accommodation doctrine, in requiring that, whenever possible, the uses must be exercised consonantly with one another.").

themselves immersed in an unexpectedly harsh reality. They learn that they have no recourse but to stand by and watch as energy companies, who have leased the mineral rights to their ranches and farms, enter their property and embark on the arduous task of reaching and extracting the valuable energy resources that lie underneath.²⁰⁹ CBM operations require the construction of roads, drill pads, water disposal sites, and utilities to support production.²¹⁰ Persistent noise from traffic, generators, pumps and compressors disturb the natural peace and tranquility of the rural landscape, its residents, and its wildlife.²¹¹ Nevertheless, the residents of the West must endure at least a portion of these hardships for the sake of the energy needs and energy security of the Nation.²¹² After years of litigation, press activity, and political activism, western resource councils and homesteaders, teamed with environmental protection advocates and watchdog groups, have helped place the spotlight on the plight of the surface owner amid the CBM boom in the intermountain West. As a result of their efforts, as well as the efforts of many others, Congress and state legislatures have begun to search for ways to accommodate the split-estate surface owner as he bears this heavy burden.

The Wyoming Surface Owner Accommodation Act of 2005 (WSOAA) is the most recent accomplishment of this goal. Under the Act,

entry by the oil and gas operator onto private land overlying leased minerals is conditioned on providing notice to the landowner, entering into good faith negotiations, obtaining a surface use agreement that provides for compensation to the surface owner for damages to the land and improvements, or getting the surface owner to provide a waiver or written consent for entry.²¹³

If negotiations fail, or a waiver is not secured, the company must post a bond for a minimum of \$2000 per well.²¹⁴ A maximum of 180 days and a minimum of thirty days notice must be provided by the oil and gas company before accessing property for surface damaging activities and a

209. See *Wyo. Outdoor Council v. U.S. Army Corps of Engineers*, 351 F. Supp. 2d 1232, 1245-46 (D. Wyo. 2005).

210. See BRYNER, *supra* note 10, at 16.

211. See *id.*

212. See *id.* at 4-5.

213. Jill Morrison, *Industry Rushes To Get Permits Before Split Estate Act Implemented*, POWDER RIVER BREAKS, Mar.-Apr. 2005, at 2, available at <http://www.powderriverbasin.org/Breaks/marchaprilBinder05.pdf>.

214. *Id.*

minimum of five days notice is required before any nonsurface disturbing activities can occur.²¹⁵

Along with the proposed notification, industry must provide the landowner with a copy of the Split Estates Act and a draft Plan of Development for oil and gas operations on the property that must include locations of wells, roads, pipelines, power lines, permanent equipment, water storage pits, and any other surface disturbing activities.²¹⁶ “The landowner can then enter into good faith negotiations over the proposed plan, and counter-propose his or her own provisions of the plan, including issues having to do with compensation.”²¹⁷ Finally, the Act entitles landowners to compensation “that covers the loss of production and income from agricultural and commercial operations; loss of value of improvements; and loss of land value.”²¹⁸

While the advent of the WSOAA is a tremendous advancement of surface owner rights in the heart of the United States’ “Persian Gulf of gas,”²¹⁹ its applicability to federal minerals leased by the BLM has yet to be determined.²²⁰ Industry sources expect the issue to be litigated, yet harbor doubt as to whether the law will be found to govern BLM activity.²²¹ The lessons learned from *NPRC v. Fidelity* suggest that the Supremacy Clause may overrule such application, obliging courts to acknowledge that only Congress has such authority.²²²

V. CONCLUSION

This Comment was designed to construe an issue of paramount importance, both for the federal government and for every citizen of the United States: natural gas is and will be the preferred fuel for electricity generation and other vital uses for the foreseeable future, and the bulk of it must come from our shores. The public and private lands of the West will be adversely affected, but the extent of the damage can be mitigated if agencies enforce the law while heeding it—an endeavor that cannot be rushed. With regard to citizen impacts, as the Wyoming legislature has proved, there are ways to ensure that one priority is not swapped for

215. *Id.*

216. *Id.*

217. *Id.*

218. *Id.*

219. See WHITE PAPER, *supra* note 36.

220. See Eryn Gable, *COALBED METHANE: Wyoming Split-Estate Law Raises Questions About Federal Supremacy*, LAND LETTER, June 9, 2005.

221. See *id.*

222. See *N. Plains Res. Council v. Fid. Exploration & Dev. Co.*, 325 F.3d 1155, 1165 (9th Cir. 2003).

another.²²³ There must be a balance of hardships where all parties are accommodated. This balance is achievable; it just takes time.

As the CBM industry and the federal government scramble to develop the mineral estate of the Rocky Mountain region, they are attracting the close scrutiny of reviewing courts. The haste with which agencies clear operations for CBM development is resulting in judicial reversals and halts to development.²²⁴ The courts have spoken: the government *shall not* rush to approve projects that may have severe environmental consequences.

With the largest CBM project in American history looming, the courts of the United States should brace for a deluge of litigation. Fortunately, western courts, as demonstrated by the Wyoming district court in *Wyoming Outdoor Council*, are up to the challenge.

223. See Morrison, *supra* note 213.

224. See, e.g., *Wyo. Outdoor Council v. U.S. Army Corps of Engineers*, 351 F. Supp. 2d 1232, 1260 (D. Wyo. 2005); *N. Plains Res. Council*, 325 F.3d at 1161; *Gerrity Oil & Gas Corp. v. Magness*, 946 P.2d 913, 927 (Colo. 1997).