



BIODIVERSITY CONSERVATION ALLIANCE ET AL.

171 IBLA 218

Decided April 19, 2007

BIODIVERSITY CONSERVATION ALLIANCE ET AL.

IBLA 2005-52

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Appeal from a decision of the Deputy State Director, Wyoming State Office, Bureau of Land Management, affirming the decision of the Rock Springs Field Office, Bureau of Land Management, approving the Pacific Rim Shallow Gas Exploration and Development Project. SDR WY-2005-04.

Affirmed.

1. Environmental Policy Act--Environmental Quality:
Environmental Statements--National Environmental Policy Act
of 1969: Environmental Statements--National Environmental
Policy Act of 1969: Finding of No Significant Impact

When an agency prepares an EA to determine whether an EIS is necessary, it must consider all relevant matters of environmental concern and take a hard look at potential environmental impacts so that it can make an informed decision about whether the environmental impacts will be significant or whether any significant impacts will be reduced to insignificance by mitigation measures. A party challenging BLM's decision has the burden of demonstrating with objective proof that the decision is based on a clear error of law or demonstrable error of fact, or that the analysis failed to consider a substantial environmental question of material significance to the proposed action.

2. Environmental Policy Act--Environmental Quality: Environmental Statements--National Environmental Policy Act of 1969: Environmental Statements--National Environmental Policy Act of 1969: Finding of No Significant Impact

When making a determination as to whether a proposed action will have a significant effect on the human environment, the cumulative effects of the proposed action and other actions not connected with the proposed activity must be taken into consideration. A cumulative impact is one which results from the incremental impact of the action when added to other past, present, and reasonably future actions and can result from individually minor but collectively significant actions taking place over time.

3. Environmental Policy Act--Environmental Quality: Environmental Statements--National Environmental Policy Act of 1969: Environmental Statements--National Environmental Policy Act of 1969: Finding of No Significant Impact

Section 102(2)(E) of NEPA, 42 U.S.C. § 4332(2)(E) (2000), requires consideration of a reasonable range of alternatives to a proposed action, including a no-action alternative. An EA which considers a range of alternatives will be upheld when BLM has assessed alternatives in a manner that will avoid or minimize the adverse impacts of the proposed action.

4. Endangered Species Act of 1973: Section 7: Consultation--Oil and Gas Leases: Discretion to Lease

BLM is not required to initiate consultation with the U.S. Fish and Wildlife Service pursuant to section 7 of the Endangered Species Act of 1973, as amended, 16 U.S.C. § 1536 (2000), in connection with its decision to approve oil and gas exploration and development where there is no information disclosing that such activity may affect listed species or critical habitat.

APPEARANCES: Erik Molvar, Laramie, Wyoming, for Biodiversity Conservation Alliance and Wyoming Wilderness Association; Lyle K. Rising, Esq., Office of the Regional Solicitor, U.S. Department of the Interior, Lakewood, Colorado, for the

Bureau of Land Management; Jack D. Palma, II, Esq., and Edward W. Harris, Esq., Cheyenne, Wyoming, for Warren Resources, Inc., and Warren E&P, Inc.

OPINION BY ADMINISTRATIVE JUDGE ROBERTS

The Biodiversity Conservation Alliance (BCA) and Wyoming Wilderness Association (WWA) (appellants) have appealed from a November 12, 2004, decision of the Wyoming State Office, Bureau of Land Management (BLM), affirming on State Director Review (SDR) the September 1, 2004, Decision Record/Finding of No Significant Impact (DR/FONSI) of the Rock Springs (Wyoming) Field Office, BLM, which approved the Pacific Rim Shallow Gas Exploration and Development Project (Project). The DR/FONSI was based on a September 1, 2004, Environmental Assessment (EA) (WY-040-EA04-008), which was prepared pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969 (NEPA), as amended, 42 U.S.C. § 4332(2)(C) (2000).

I. Factual Background

Warren E&P, Inc. (Warren), proposes to explore and potentially develop shallow natural gas resources in an area encompassing approximately 47,598 acres of Federal, State, and private lands in Sweetwater County, Wyoming, designated the Pacific Rim Shallow Gas Project Area (PRPA or Project Area), situated in Ts. 13 through 15 N., Rs. 100 and 102 W., Sixth Principal Meridian, Wyoming, approximately 35 miles southeast of Rock Springs, Wyoming. BLM describes the Project Area, which falls under the jurisdiction of the Rock Springs Field Office, as “mostly unexplored for natural gas.”^{1/} (DR/FONSI at 1.) Warren’s proposal involves drilling and developing up to a maximum of 120 natural gas wells and undertaking associated roadbuilding, construction of pipelines, and other ancillary activity within the Project Area. Of the 120 wells, most (108) would be located on BLM- administered public lands that are subject to existing Federal oil and gas leases, with the remainder being located on State (4) and private (8) lands. All of the wells would primarily “target sandstone reservoirs and coal seams within the Almond Formation” at depths of from 1,000 to 6,500 feet, but might explore and develop “other sandstone and coal reservoirs[.]” (DR/FONSI at 2; EA at 2-7; see BLM Answer at 1.) “Gas produced would be from both coal seams (coalbed methane (CBM)) and adjacent sands.” (EA at 2-7.)

The 120 wells, which were expected to be drilled at 160-acre spacing, were considered by Warren to be the minimum number of wells necessary “to provide * * *

^{1/} BLM states that “[s]ince 1954, one producing well has been drilled and developed, five natural gas wells have been drilled and shut-in, and ten non-producing wells have been drilled, plugged and abandoned.” (DR/FONSI at 1.)

adequate surface area and geological coverage,” “to evaluate project viability in a timely fashion,” and “to effectively dewater the target reservoirs.” (DR/FONSI at 2.) The specific locations of individual wells were not identified, in recognition of the “uncertainty [concerning] reservoir characteristics” and the need to give the Project operator(s) the flexibility necessary to respond to information gathered during the exploration process regarding the presence and extent of underlying natural gas resources. According to the proponent, drilling “120 wells provides flexibility in repositioning a pod or group of wells in the event that the exploratory drilling attempts encounter poor quality reservoirs or indicate a need to drill future wells on denser spacing.” *Id.*; *see* EA at 4-28 (“The precise number and location of wells may change as directed by the success of developmental drilling, production technology, and economic profitability”); DR/FONSI, Appendix A (Summary of Scoping Notice Comments and BLM Responses) at A-7 (“Exact well location can not be identified at this time”).

For purposes of its environmental analysis, BLM assumed that wells and other Project facilities would be spaced evenly across the Project Area. (EA at 4-28.) Thus, BLM did not identify the location of any of the wells, pipelines, or other infrastructure associated with the proposed natural gas exploration and development. Rather, it provided that review of effects specifically associated with the siting of individual wells and development of appropriate measures to mitigate any site-specific impacts would occur in conjunction with BLM’s review of applications for permits to drill (APDs) individual wells and applications for rights-of-way (ROWs) and other land-use authorizations, which actions would be subjected to further environmental review. *See* EA at 1-4, 2-2, 2-4; DR/FONSI at 2; Record of Decision (ROD) and Green River Resource Management Plan (Green River RMP or GRRMP), dated October 1997, at 3, 12, 163 (Appendix 5-2 (Environmental Analysis and Mitigation of Oil and Gas Development and Other Surface Disturbing Activities)). The proposed drilling and construction is expected to take approximately 2 to 4 years, with the entire projected life-of-the-project (LOP) being 15 to 20 years. *See* EA at 2-7, 2-10, 2-13, 2-15. Wells deemed by testing to be capable of commercial production would be connected to flowlines, gathering facilities, and (if necessary) compressors, and the remaining wells would be plugged and abandoned. All disturbed areas no longer needed for Project activities would be recontoured, reseeded, and otherwise fully reclaimed, during and after the Project.

On February 8, 2002, prior to initiation of the scoping process leading to preparation of the EA, Biodiversity Associates (now BCA) submitted to BLM a proposal that the Kinney Rim North Unit (North Unit), which encompasses the Project Area, be designated as a wilderness area pursuant to the Wilderness Act, as amended, 16 U.S.C. §§ 1131-1136 (2000). *See* SOR at 3. BLM reports that, in 1980, it considered all of the lands in the North Unit for designation as a wilderness study area (WSA) pursuant to section 603 of Federal Land Policy and Management Act of

1976 (FLPMA), as amended, 43 U.S.C. § 1782 (2000), but determined that “these lands were not suitable for further wilderness study.” (BLM Answer at 2; see EA at 3-1; Green River RMP at 104 (Map 28 (Wilderness Study Areas)); Letter to BCA from Acting Field Manager, Rock Springs Field Office, dated July 24, 2002 (Ex. B, attached to SOR, at 1.) BLM reviewed BCA’s February 2002 wilderness proposal, concluding in a January 2, 2003, letter to BCA that the North Unit does not possess wilderness characteristics and thus does not qualify for designation as a wilderness area.^{2/} BLM stated that it regards the North Unit as open to oil and gas leasing and exploration and development, consistent with the dictates of its applicable land-use plan, i.e., the 1997 Green River RMP.^{3/} (Decision at 14; see EA at 1-3 to 1-4.)

After an initial scoping period followed by a 30-day public comment period, BLM issued its EA, which considered the potential environmental impacts of the Proposed Action as well as a No Action Alternative. BLM’s EA was tiered to the March 1996 Final Environmental Impact Statement (Final EIS) that had been prepared in conjunction with the 1997 Green River RMP. (EA at 1-4.) The Final EIS had generally addressed, inter alia, the potential environmental impacts of leasing the lands at issue, as well as other lands in the Green River Resource Area, for oil and gas purposes. See, e.g., Green River Resource Area RMP and Final EIS, dated March 1996, at 25, 71-72 (Table 2-1, “Summary Comparison of Alternatives”).

BLM undertook to fulfill its responsibilities under section 7 of the Endangered Species Act of 1973 (ESA), as amended, 16 U.S.C. § 1536 (2000), by consulting with the Fish and Wildlife Service (FWS), U.S. Department of the Interior, concerning the effects of the proposed Project on listed threatened and endangered (T&E) species and their designated critical habitat. By letter dated August 16, 2004, the BLM Field Manager sought FWS’ concurrence with BLM’s “no [e]ffect” determination for the Bald eagle (Haliaeetus leucocephalus), and with BLM’s “may affect, not likely to adversely affect” determination for the black-footed ferret (Mustela nigripes). FWS responded to BLM’s August 16 letter by memorandum

^{2/} Exhibit D attached to appellants’ SOR is an “Inventory Area Evaluation” for the North Unit, which was signed by the Field Managers of the Rock Springs and Rawlins Field Offices, Wyoming, BLM, on Dec. 20 and 23, 2002.

^{3/} See ROD and Green River RMP at 12, 63-65 (Table 7, “Areas of Oil and Gas Lease Restrictions by Hydrocarbon Potential”), 89 (Map 13, “No Lease Areas”), 90 (Map 14, “No Surface Occupancy Areas”), 91 (Map 15, “Big Game Crucial Winter Ranges and Parturition Areas”), 92 (Map 16, “Sage Grouse Seasonal Restriction Areas”), 93 (Map 17, “Raptor Seasonal Restriction Areas”), and 94 (Map 18, “Lease with Controlled Surface Use Stipulations”).

dated August 27, 2004, concluding that its concurrence was “not required,” since the evidence supported a “no [e]ffect” determination in both cases. ^{4/}

In his August 16 letter, BLM’s Field Manager requested “formal consultation” concerning four Colorado River T&E fish species (Bonytail chub (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), Humpback chub (*Gila cypha*), and Razorback sucker (*Xyrauchen texanus*)) and their designated critical habitat. The basis for the Field Manager’s request was that a considerable amount of water was intended to be used “for drilling, pipeline hydrostatic testing, and road dust abatement” in connection with the Project. (Letter to FWS, dated Aug. 16, 2004, at 2.) He intimated that obtaining water for Project purposes might affect water quantity in the Colorado River, noting that “[w]ater depletion from the Colorado River and its tributaries” had already been determined “to be jeopardizing the continued existence of [the] four endangered fish [species] downstream from the [P]roject [A]rea.” Id. The Field Manager stated that BLM’s determination was “‘may affect, likely to adversely affect’ the four Colorado River fishes and their designated critical habitat.” Id.

However, on August 24, 2004, Keith, BLM’s wildlife biologist, e-mailed FWS a “clarification” stating that BLM’s “request for ‘Formal Consultation’ on the water depletions to the Colorado River[] should have been deleted.” She explained:

^{4/} BLM’s Aug. 16, 2004, letter and FWS’ Aug. 27, 2004, memorandum are included in the DR/FONSI as Appendix D. BLM’s copy of FWS’ memorandum is signed on behalf of FWS, but undated. It does bear evidence of having been transmitted by facsimile on Aug. 27, 2004. Appellants have provided a dated version of the memorandum (Ex. J to SOR). While the two versions of FWS’ August 27 memorandum are identical, we find a major discrepancy between the copy of BLM’s August 16 letter attached to the DR/FONSI and a copy of the letter in the Project casefile provided by BLM. Both request formal consultation, but each renders a different “*Determination*” regarding the likely effect of the Project on four Colorado River T&E fish species. The copy attached to the DR/FONSI states that the Project “may affect, likely to adversely affect,” and the copy in the casefile states “[n]o [e]ffect.” We surmise that the copy of BLM’s August 16 letter attached to the DR/FONSI was initially sent to FWS and was later replaced by the copy in the casefile. The copy of the letter in the casefile seems to have been attached to an Aug. 20, 2004, “FAX Transmission Cover Sheet,” in which Lorraine Keith, a BLM wildlife biologist, explains to Kathleen Erwin, an FWS employee, that “this request for concurrence” should have been transmitted two weeks earlier. She states that BLM was awaiting FWS’ concurrence before approving the Project, and was “FAXing” the request “in hopes of speeding the process along.”

Once it was determined that 100% of the water [for the Project] will come from Rock Springs and the Joint Powers and Water Board in Rock Springs pursuant to the Biological Opinion by the U.S. Fish and Wildlife Service, dated September 27, 1993[,] there is no longer a need for the BLM to request formal consultation on municipal water taken from the Rock Springs municipal water sources. Our determination is “No [e]ffect” to the four Colorado River fishes and/or their designated habitat. [Emphasis added.]

In its August 27 memorandum, FWS stated that its response to BLM was based on the information in the Field Manager’s August 16 letter and Keith’s August 24 e-mail to the effect that BLM’s original request for formal consultation concerning the potential effects of water depletions related to used water on the Colorado River T&E fish species “was in error.” (Memorandum to BLM dated Aug. 27, 2004, at 1.) Based on BLM’s clarification that all water used in dust abatement, drilling, and hydrostatic testing of pipelines for the Project would be obtained from the Joint Powers and Water Board in Rock Springs for which a biological opinion had previously been issued September 27, 1993, FWS concluded on August 27, 2004, that consultation was “not required.” Id.

BLM apparently did not raise the issue of consultation with FWS concerning potential impacts to the T&E fish species from water produced from the wells because it had determined that project activities involving produced water should not affect these species. The PRPA EA, which was signed on September 1, 2004, states that “[a]ll water produced from productive wells would be disposed of in water disposal wells,” and “therefore, project activities should not affect these fish species of concern found downstream from the PRPA.” (PRPA EA at 4-40.)

In his September 2004 DR/FONSI, BLM’s Field Manager approved the Proposed Action, conditioned on (1) implementation of Project-Wide Mitigation and Procedures (Appendix B) and Additional BLM Required Mitigation (Appendix C), and (2) adherence to “any additional conditions of approval attached to the approved APD[s]” and to “oil and gas leases and ROW grant stipulations.” (DR/FONSI at 5.) The Field Manager stated that approval of the Proposed Action “authorizes [the] processing of APD and ROW applications for [specified P]roject components on BLM-administered public lands and/or minerals within the PRPA,” noting that the “[a]pproval of component permits [and grants] is required prior to surface activities.” Id. at 4. These “components” primarily consisted of 108 natural gas wells, 32.1 miles of new access roads, and 35.64 miles of new gas gathering and water discharge lines. He specified that “all production water will be reinjected into existing water disposal wells located within the [P]roject [A]rea.” Id.

The Field Manager determined that the Project conformed to the existing land-use plan, *i.e.*, the October 1997 Green River RMP. (DR/FONSI at 5.) He also generally concluded that the “[p]otential environmental impacts from the Pacific Rim Project proposal to surface and subsurface resources identified in the Environmental Assessment are considered minor and are deemed acceptable with mitigation identified in Appendices B and C of this [DR/FONSI].” *Id.* at 6 (emphasis added). The Field Manager also found, based on the EA, that BLM was not required by section 102(2)(C) of NEPA to prepare an EIS, because the Project was not likely to have any significant environmental impact. *Id.*

BCA, acting on behalf of itself and WWA, as well as the Wyoming Outdoor Council (WOC), sought SDR of the Field Manager’s September 2004 DR/FONSI. In his November 12, 2004, decision, after a thorough consideration of the arguments raised by appellants and WOC, the Deputy State Director affirmed the Field Manager’s DR/FONSI: “[T]he EA and FONSI/DR compl[y] with NEPA, FLPMA, applicable laws and regulations, and [are] consistent with management objectives in the Green River RMP.” (Decision at 16.) He declined to stay the effect of the DR/FONSI or of BLM’s approval of the Project. *Id.*

Appellants filed a timely appeal and petition for stay of the Deputy State Director’s decision. ^{5/} By Order dated February 17, 2005, the Board denied appellants’ petition for stay.

II. Analysis

Appellants contend that BLM’s decision to go forward with the Project violates the procedural requirements of section 102(2)(C) of NEPA, in that BLM failed to take a “hard look” at the likely environmental impacts of or to consider a reasonable range of alternatives to the proposed Project. Appellants also argue that BLM’s decision violates section 7 of the ESA, in that BLM failed to take into account the likely effects of activity related to the Project on T&E species. They assert that the Project will “industrialize” the 47,598-acre Project Area, “resulting in permanent and irreparable environmental damage.” (SOR at 2, 7.) They ask the Board to reverse BLM’s decision approving the Project and remand the case to BLM “to redress these violations of [F]ederal law.” (SOR at 60.)

^{5/} WOC did not join in the appeal. By order dated Jan. 7, 2005, we granted a request to intervene in the proceeding by Warren Resources, Inc., and Warren E&P, Inc., a wholly-owned subsidiary of Warren Resources, Inc. (hereinafter, collectively, Interveners). Warren Resources, Inc., is the working interest owner of “more than 80 of the 120 CBM wells” at issue; Warren E&P, Inc., is the operator of those 80 wells. (Motion to Intervene at 2.)

A. BLM did not Violate NEPA in Approving the Project

[1] We first consider appellants' contentions that BLM, in approving the Project, violated section 102(2)(C) of NEPA. Under that statute, a BLM decision to proceed with a proposed action without preparing an EIS will be upheld where the record demonstrates that BLM has taken a "hard look" at the proposal and has identified relevant areas of environmental concern so that it could make an informed decision about whether there are any significant environmental impacts, or, if so, whether they can be reduced to insignificance by mitigation measures. Biodiversity Conservation Alliance (BCA), 169 IBLA 321, 331 (2006); National Wildlife Federation, 169 IBLA 146, 154-55 (2006); Southern Utah Wilderness Alliance, 164 IBLA 33, 36 (2004). A party challenging BLM's FONSI has the burden of demonstrating with objective proof that the FONSI is based on a clear error of law or demonstrable error of fact, or that BLM failed to consider a substantial environmental question of material significance to the proposed action, or otherwise failed to abide by section 102(2)(C) of NEPA. Biodiversity Conservation Alliance, 169 IBLA at 332; National Wildlife Federation, 169 IBLA at 155; Southern Utah Wilderness Alliance, 164 IBLA at 36.

1. BLM Adequately Considered the Cumulative Impacts of the Project

[2] Appellants argue that BLM violated section 102(2)(C) of NEPA by failing to recognize as significant the likely direct, indirect, and cumulative impacts of drilling and related activity on the greater sage-grouse (Centrocercus urophasianus) and other wildlife, on wilderness characteristics, and on "other resource values"; and by basing its FONSI on nothing more than "conclusory analysis" unsupported by verifiable scientific data and justifications. (SOR at 10, 27-29, 33-34, 39-44, 47.)

In the recent opinion in BCA, *supra*, the Board addressed nearly identical arguments in the context of BCA's challenge to an EA and DR/FONSI prepared by BLM for the Lower Bush Creek Coal Bed Methane Exploratory Project (LBC Project). In BCA, quoting Friends of the Nestucca, 144 IBLA 341, 358 (1998), we stated: "Our decisions confirm the importance of a careful analysis of direct, indirect, and cumulative impacts." 169 IBLA at 332. NEPA and Council on Environmental Quality (CEQ) regulations require agencies to consider the cumulative impacts of proposed actions. CEQ regulations define the term "cumulative impact" as "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 * * * undertakes such other actions." 30 CFR 1508.7; *see also Forty Most Asked Questions Concerning CEQ's NEPA Regulations*, 46 FR 18026, 18033 (Mar. 23, 1981).

In reviewing BCA's cumulative impacts argument in BCA, the Board noted that BCA failed to recognize that the EA for the LBC Project was tiered to the cumulative impacts analysis contained in the Continental Divide/Wamsutter II (CD/WII) Natural Gas Project EIS. The Board stated that "[o]nce impacts have been analyzed in a broader NEPA document, a 'subsequent statement or environmental statement need only summarize the issues discussed in the broader statement by reference and shall concentrate on the issues specific to the subsequent action.'" 169 IBLA at 333, quoting 40 CFR 1502.20. The Board's statement of BCA's burden in that case applies equally here: "Thus, BCA has the burden of demonstrating that the Revised EA's analysis, which tiers to the two [Draft EIS] analyses, does not constitute 'a reasonably thorough discussion of * * * significant aspects of the probable environmental consequences' of the proposed action, here the LBC Exploration Project." 169 IBLA at 333, quoting Trout Unlimited v. Morton, 509 F.2d 1276, 1283 (9th Cir. 1974).

a. The "Tiered Approach" Adopted in the PRPA EA

In applying these principles to the PRPA EA, we note that the Deputy State Director stated in his decision that "the primary purpose of preparing a broad oil and gas field exploratory and development EA is to provide appropriate environmental information to the public before permitting decisions are made and actions are taken." (Decision at 10.) He stated that "[t]he PRPA EA provides an efficient method to examine potential impacts, particularly cumulative effects of a proposed increase in drilling in the project area," and that "these effects might not be thoroughly, or adequately, examined in a site-specific environmental analysis prepared for a single APD." Id. He places the PRPA EA into the context of the "tiered approach" as described in Appendix 5-2 of the Green River RMP:

"Tier One" would be the development of the land use plan (GRRMP). The PRPA EA would fall under "Tier Two" and is described as "A more detailed evaluation of planned activity for a specific area is developed and analyzed (e.g., a field development proposal or coordinated activity plan)" (GRRMP at 163). It goes on to say, under this tier an ". . . environmental analysis looks at a reasonable range of alternatives and assesses the cumulative impacts of the development." "Tier Three" would be the EA prepared for site-specific activities such as APDs and ROWs.

(Decision at 11.) The need for this approach, explained the Deputy State Director, is based upon "the uncertainty of geologic, technical, and economic criteria associated with oil and gas exploration and development," particularly given the "uncertainty in reservoir characteristics." Id.

The principal thrust of BCA's cumulative impacts challenge relates to what BCA refers to as the failure of the PRPA EA to set forth an explicit plan of construction containing proposed locations for all wells, roads, pipelines, and ancillary facilities associated with the proposed Project. See SOR at 35. BCA argues that, without spatially specific plans, BLM cannot evaluate the magnitude of impacts of the Project on wildlife, vegetation, and surface waters. Id.

Our review of the record shows, however, that BLM generally considered the likely direct, indirect, and cumulative impacts to sage grouse and other wildlife in its EA. See EA at 3-58, 3-60 to 3-71, 3-73, 3-74, 3-76 to 3-83, 4-28 to 4-40, 5-17 to 5-23; Decision at 12. Chapter 2 of the PRPA EA provides a detailed analysis of anticipated Project-wide environmental impacts associated with the proposed development and discusses mitigation measures and procedures. Chapter 2 sets forth operating procedures which Warren has agreed to implement during the construction phase of the Project. Appendix B of the DR/FONSI also enumerates these Project-wide mitigation measures. BLM's FONSI clearly determines that any effects are either not significant or can be mitigated to insignificance.

b. Habitat Loss and Fragmentation

BCA is particularly concerned about the adequacy of BLM's consideration of two impacts, habitat loss and fragmentation, which are specifically addressed in the PRPA EA. In the case of sage grouse, BLM acknowledged both the presence of four active leks in and near the Project Area and the potential for physical disturbance and habitat loss, but stated that the direct, indirect, and cumulative impacts were expected to be minimal. (EA at 4-38, 5-18.) By way of mitigation, BLM precluded any construction activity within one-quarter mile of an active lek and within two miles of a lek during the breeding, egg-laying, and incubation period (March 1 to June 30), in recognition of the fact that "preferred nesting habitat is usually located within two miles of leks." Id. at 3-79; see DR/FONSI, Appendix B, at B-9. BLM concluded that 194 acres of such preferred nesting habitat would be disturbed during the initial drilling/construction phase of the Project and 60 acres during the LOP. (EA at 4-38.) This equates to 3.5 percent (drilling/construction) and 1.1 percent (LOP) of the approximately 5,500 acres of total nesting habitat in the Project Area, and 0.6 percent (drilling/construction) and 0.18 percent (LOP) of the approximately 33,559 acres of available sagebrush habitat in the Project Area. Id.

Appellants present no evidence that BLM overlooked any likely impact or failed to appreciate the nature or magnitude of an impact, or that BLM's FONSI was otherwise erroneous or deficient, in the context of the greater sage grouse. Appellants' references to general scientific literature do not suffice to demonstrate error or deficiency in BLM's analysis. Nor does the proffer of general expert opinion concerning the effects of oil and gas drilling and related activity on sage grouse or

other special status wildlife species, apart from the circumstances of the present case, suffice to demonstrate any error or deficiency. “When specialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own qualified experts.” Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 378 (1989). “[D]isagreement among experts will not serve to invalidate an EIS.” Life of the Land v. Brinegar, 485 F.2d 460, 472 (9th Cir. 1973), cert. denied, 416 U.S. 961 (1974). “NEPA does not require * * * this Board to decide whether an EIS * * * is based on the best scientific methodology available or require us to resolve disagreements among various scientists as to methodology.” Wyoming Audubon, 151 IBLA 42, 51 (1999).

c. Consideration of Impacts on Water Resources

Appellants’ primary argument concerning impacts of the Project on water resources is that “BLM has not presented sufficient information in the Pacific Rim EA/DR/FONSI to indicate that the drawdown of water from the Almond formation and its transfer to the deeper Rock Springs formation does not constitute a depletion of the Colorado River system, thus creating impacts to endangered Colorado River fishes.” (SOR at 52, emphasis added.) We consider appellants’ argument that BLM failed in its ESA obligations regarding the T&E fish species infra.

In the EA, BLM noted that the water from the Almond coal seams would come from “confined” or “semi-confined aquifers,” which are separated from other aquifers underlying the Project Area by impervious or semi-impervious layers of shale or siltstone. (EA at 4-19.) BLM concluded that the hydrologic connection between the Almond coal aquifers and other aquifers, above and below, was likely to be “very limited.” Id. Further, BLM determined that, “[d]ue to extremely low hydraulic conductivity of the confining layers, enhanced leakage from any aquifer stratigraphically above or below the dewatered coal seams would be minimal, and only after a period of time would drawdown effects in any overlying aquifer become apparent.” Id. (emphasis added). Thus, reasoned BLM, any removal of water from the coal aquifers was likely to result in little or no drawdown in the other aquifers. BLM deemed this to be true whether it analyzed the direct impacts of the Project itself or the cumulative impacts of the Project together with the Copper Ridge Shallow Gas Project. ^{6/} Id. at 4-19, 5-15.

^{6/} BLM regarded the Copper Ridge Shallow Gas Project, situated about four miles to the north, as the only “[r]easonably foreseeable” oil and gas development that was likely, together with the Project, to have a cumulative groundwater impact, since the two projects were expected to have “overlapping cones of depression” in the Almond coal aquifers. (EA at 5-14.)

BLM undertook to assess the effects of any potential coal aquifer drawdown. In analyzing the drawdown effects of the Project, BLM used a “simpler planning-level model” than “U.S. Geological Survey’s Three-Dimensional Finite Difference Modular Groundwater Flow Model MODFLOW” since, in the absence of additional drilling and testing, it lacked sufficient “site-specific data.” (EA at 4-19.) BLM stated: “[T]he areal extent of drawdown within the coal aquifer due to the removal of water for the shallow gas project was estimated using an aquifer analysis model that is based on equations describing transient flow to pumping wells developed by Theis (1935).” *Id.* BLM further noted that “[t]his model provides a conservative prediction of the potential drawdown resulting from groundwater pumpage at a well or group of wells.” *Id.* (emphasis added).

BLM was not able to predict the exact quantity of water likely to be removed from coal seams in the Almond formation, noting that long-term data was not available and that “[s]hort-term tests on recently drilled [and completed shallow] gas wells indicate that discharge rates will be highly variable due to the difference in depths of the producing zones and coal thicknesses.” *Id.* at 2-13, 4-19. BLM assumed, for purposes of its environmental analysis, a long-term, steady-state discharge rate of “5 gallons per minute per well” over the 20-year LOP. *Id.* at 2-13, 4-19 to 4-20. BLM reported that its modeling “predict[ed] that, after 20 years the 10-foot drawdown contour in the coal [resulting from the Project] will extend approximately 11 miles north, 12 miles east, and 10 miles south of the PRPA.” *Id.* at 4-20. Ten feet of drawdown was said to represent “less than one percent” of the estimated available head (or hydraulic pressure) in this area. BLM predicted that after 20 years the 10-foot drawdown contour resulting from the Project and the Copper Ridge Shallow Gas Project “will extend approximately 13 miles north and 12 miles east of the Copper Ridge project area and approximately 12 miles south and 12 miles east of the PRPA,” encompassing “approximately 1,000 square miles (639,587 acres).” *Id.* at 5-14, 5-15. Ten feet of drawdown was said to represent “less than one percent” of the estimated available head in this area. *Id.* at 5-15.

While not able to predict the true extent of the drawdown that is likely to be occasioned by CBM extraction, BLM plainly did not anticipate, based on existing data and modeling capability, that any drawdown would diminish the quantity of surface waters originating from the Project Area or surrounding areas such that there would be any appreciable impact on the amount of water in the Colorado River or any negative effect on the T&E fish species. Based on a review of geologic, hydrologic, and other information, BLM “determined that the Almond [coal seams] have no hydrological connection to formations that would contribute water to the Colorado River Basin System.” (Decision at 14 (emphasis added).) Regardless of the exact quantity of water extracted from the Almond coal seams and the extent of the resulting drawdown, BLM expected no diminishment of waters flowing to the Colorado River, absent the necessary hydrologic connection. BLM concluded that

“no significant impacts to the sensitive fish species found downstream of the PRPA are expected.” (EA at 4-40.) BLM concluded, based upon the analysis in the EA, that the removal of wastewater associated with CBM extraction from the Almond coal aquifers was not likely to affect the four Colorado River T&E fish species. (Decision at 13-14.) This finding is consistent with the actions taken by BLM in connection with compliance with the ESA, as discussed below.

Appellants offer no evidence that the removal of water from the shallow coal aquifer in connection with the 120 Project wells is likely to diminish the quantity of any surface waters flowing to the Colorado River, or to be of such magnitude that it might affect the T&E fish species downstream of the Project Area. See, e.g., Reply Brief at 11. Nor is there any evidence that there is a “strong likelihood” that this will occur. Id. at 12. Rather, appellants rely on BLM’s failure to present “information that would indicate that this withdrawal of groundwater and its reinjection into deeper strata will not reduce flows of the Colorado River or its tributaries.” Id.

There is no indication in the EA that BLM considered it likely that the drawdown in the Almond coal aquifers would affect any surface waters in or surrounding the Project Area. See PRPA EA, “Chapter 5: Cumulative Impacts Analysis” at 5-14 to 5-15. Appellants have shown no error in BLM’s conclusion that the identified impacts on water resources would not be significant.

2. BLM’s Deferment of Site-Specific Analysis Was Not Improper

A related argument is that BLM improperly deferred its analysis of the likely site-specific environmental impacts of individual wells, roads, and pipelines, and any appropriate mitigation, until the submission of APDs, ROW applications, and other requests for BLM land-use authorization. BCA asserts that “BLM cannot be considered to have taken a ‘hard look’ at the impacts of this project without laying out a spatially explicit plan of construction and operations.” (SOR at 35.) In their view, BLM has compromised its environmental analysis because “[t]he magnitude of the impacts” (whether to sage grouse, historic properties eligible or potentially eligible for inclusion on the National Register of Historic Places, or other resources) cannot be assessed until it is known “where exactly the roads, pipelines, and wells are [to be] built.” Id.

Our review of the EA shows that BLM conducted a thorough analysis of the likely environmental impacts of siting up to 120 natural gas wells and associated facilities in the Project Area. As the Deputy State Director explained, the Project EA, to which site-specific EAs would be tiered, is “an intermediate document” that “generally consider[ed] a variety of mitigation strategies to ensure [that] natural gas exploration and development in the [P]roject [A]rea can be approved in an environmentally sound manner and in conformance with land use plan allocations.”

(Decision at 2.) He also stated that the Project EA provided the “mechanism to analyze and disclose cumulative effects from projected increases in exploration and development activities” in the Project Area, and that such cumulative effects “often cannot be adequately analyzed in an EA conducted for a site-specific * * * action,” such as in connection with an APD or ROW. Id.

The record confirms that BLM’s Project-level review addressed the impacts likely to occur as a consequence of Project activities occurring across the entire Project Area, that is, the cumulative impacts. Such impacts “might not be thoroughly, or adequately, examined in a site-specific environmental analysis prepared for a single application for permit to drill (APD)” or other activity. (BLM Answer at 5.) At the Project stage, the siting of individual wells and associated facilities is entirely dependent on the results of the drilling program: “Until [Intervenors] can explore the lease and determine specific locations for development, neither BLM nor [Intervenors] know where lease development will occur.” (Intervenors’ Response to SOR at 18.) Given the “uncertainty in reservoir characteristics,” it is not possible at the Project stage to firmly locate all of the 120 wells in the Project Area. (DR/FONSI at 2; see EA at 4-28; Decision at 11.) Consequently, the Project is designed to afford the Project operator(s) “flexibility” to “reposition a pod or group of wells in the event that the exploratory drilling attempts encounter poor quality reservoirs or indicate a need to drill future wells on denser spacing.” (DR/FONSI at 2.)

Moreover, before any drilling or other surface-disturbing activity may occur, the proposed activity will be subjected to site-specific environmental review. Such review may consist of preparation of an EA, followed by issuance of a FONSI and DR, which provides for the adoption of measures necessary to reduce any significant impact to insignificance, or preparation of an EIS should it become apparent that significant impacts will unavoidably occur. No surface-disturbing activity will be approved until after BLM has undertaken appropriate environmental review (tiered to the prior Project-level analysis), including the potential adoption of additional site-specific mitigation measures, and has issued an approval decision, which is then subject to appeal to the Board. See, e.g., Southern Utah Wilderness Alliance, 166 IBLA 270, 273 (2005); see also EA at 1-4, 2-2, 2-4; DR/FONSI at 2, 4, 6; DR/FONSI, Appendix A, at A-7; DR/FONSI, Appendix C, at C-1.

3. BLM was not Required to Prepare an EIS for the Project

Appellants contend that BLM violated section 102(2)(C) of NEPA by failing to prepare an EIS. (SOR at 54-59.) Section 102(2)(C) of NEPA requires Federal agencies to prepare an EIS if approval of a proposed action would constitute a “major federal action significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C) (2000). In this case, BLM chose to prepare an EA instead of an EIS for the proposed action, making a corresponding finding (amply supported by

the facts of record) that the Project “will not have any significant impact on the human, natural, or physical environment.” (DR/FONSI at 6.) BLM’s FONSI was supported by an EA that took a hard look at the environmental consequences of the proposed action, identified the relevant areas of environmental concern, and made a convincing case that environmental impacts from the proposed action are insignificant. Wilderness Watch, 168 IBLA 16, 34-35 (2006), and cases cited. The ultimate burden of proof is on BCA to show, through objective proof, that BLM’s determination to go forward with the proposed Project without preparing an EIS was premised on “a clear error of law or a demonstrable error of fact, or that the analysis failed to consider a substantial environmental question of material significance to the action for which the analysis was prepared.” Colorado Environmental Coalition, 169 IBLA 137, 140 (2006), quoting In re Stratton Hog Timber Sale, 160 IBLA 329, 331 (2004). BCA has failed to meet this burden.

Quoting Greenpeace Action v. Franklin, 14 F.3d 1324, 1332 (9th Cir. 1992), appellants argue that BLM was required to prepare an EIS because “substantial questions are raised as to whether [the] project * * * may cause significant degradation of some human environmental factor.” (SOR at 56.) Quoting Save the Yaak Committee v. Block, 840 F.2d 714, 717 (9th Cir. 1988), they argue that BLM was required to provide “a ‘convincing statement of reasons’ why the [P]roject’s impacts are insignificant.” (SOR at 55.) They assert that they have raised substantial questions concerning the likely effects of the Project on wilderness characteristics of the North Unit and on the four Colorado River T&E fish species. See SOR at 56-57. They assert that “where questions remain as to the significance of a project’s effects and the agency cannot state definitively that significant impacts will not occur, the agency must prepare an EIS.” (SOR at 56.)

The extent of the area’s wilderness characteristics is not, as a legal matter, as great as appellants believe. BLM addressed the question of whether the Project Area satisfies the criteria for designation as a wilderness area^{2/} when it decided to exclude the area from the WSA in 1980, and later when it evaluated BCA’s wilderness proposal in 2003. At both times, BLM concluded that the area did not qualify for

^{2/} Section 2(c) of the Wilderness Act, 16 U.S.C. § 1131(c) (2000), defines a “wilderness,” inter alia, as

“an area of undeveloped Federal land * * * which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.”

wilderness designation. ^{8/} Those decisions have become administratively final for the Department, and thus are no longer subject to review by the Board. Colorado Environmental Coalition, 161 IBLA 386, 391-94 (2004). BLM is not required to consider the likely effects of oil and gas exploration and development on wilderness characteristics or the overall suitability of the affected lands for wilderness designation or regard such impacts as significant, when it has previously determined, with administrative finality, that the area of public lands at issue does not qualify for wilderness designation. ^{9/} Southern Utah Wilderness Alliance, 163 IBLA 14, 25-26, 28 (2004); Colorado Environmental Coalition, 162 IBLA at 301-02; Southern Utah Wilderness Alliance, 128 IBLA 52, 65-66 (1993). Nor is BLM required to consider the likely impacts of oil and gas leasing and exploration and development on wilderness characteristics where neither the Department nor Congress has recognized that they exist. See, e.g., Southern Utah Wilderness Alliance, 159 IBLA 220, 223-24 (2003); Utah Wilderness Association, 86 IBLA 89, 90 (1985). BLM need not consider the impact of such activity on possible future recognition by Congress or the Department, since it constitutes a remote and highly speculative impact. Colorado Environmental Coalition, 142 IBLA 49, 53 (1997), citing Trout Unlimited v. Morton, 509 F.2d at 1283.

^{8/} BLM's authority under sec. 603 of FLPMA to designate WSAs is deemed to have "expired as of October 21, 1993," at the expiration of the President's authority under that statute to recommend WSAs for wilderness designation. Colorado Environmental Coalition, 162 IBLA 293, 298 (2004). While BLM may exercise its general inventory and land-use planning authority to assess and protect wilderness characteristics, it has taken no such action here. Id. at 299-300 n.9.

^{9/} We recognize that, in Southern Utah Wilderness Alliance v. Norton, No. 2:04CV574 DAK (D. Utah Aug. 1, 2006), the District Court held that BLM violated NEPA by deciding to lease public lands without undertaking supplemental NEPA analysis, where BLM had, subsequent to its land-use planning EISs, determined that the lands have or may have wilderness characteristics. The court concluded that BLM's determination required supplemental NEPA analysis since it constituted "new information" that indicated that oil and gas leasing and development might affect the wilderness characteristics of the lands, and thus the environment, "in a significant manner or to a significant extent not already considered" in the EISs. Id. at 48, quoting Marsh v. Oregon Natural Resources Council, 490 U.S. at 373-74.

We do not find the Court's holding in Southern Utah Wilderness Alliance to require supplemental NEPA analysis here. BLM's assessment of the wilderness character of the North Unit did not constitute new information when BLM was preparing the September 2004 EA at issue, since BLM had earlier evaluated and rejected BCA's wilderness proposal in a Jan. 2, 2003, letter. It had also determined that none of the lands in the North Unit has wilderness characteristics.

Appellants claim that BLM's failure to adopt more stringent mitigation measures will result in significant environmental impacts, requiring preparation of an EIS. (SOR at 22.) In particular, they complain that the 1/4 mile buffer around active sage grouse leks and the 1- to 1 1/2 mile buffer around active raptor nests are inadequate, stating that "there is abundant scientific literature indicating that larger buffers are needed." *Id.*; *see id.* at 23-34. BLM was aware that the matter was the subject of ongoing scientific analysis but determined that it could, in the interim, rely on the current scientific consensus. *See* Decision at 9-10; National Wildlife Federation, 126 IBLA 48, 61 (1993); Powder River Basin Resource Council, 120 IBLA 47, 60-62 (1991). Appellants have not established that BLM's failure to adopt any of their proposed mitigation measures is likely to result in a significant impact, thus undermining the FONSI.

4. BLM Considered a Range of Reasonable Alternatives for the Project

a. The Directional Drilling Alternative

[3] Appellants assert that BLM failed to consider reasonable alternatives that would be "less environmentally damaging" to the Project Area than the proposed action. (SOR at 2.) Under section 102(2)(E) of NEPA, BLM is generally required to consider "appropriate alternatives" to the proposed action that would accomplish its intended purpose, are technically and economically feasible, and have a lesser impact. Headwaters, Inc. v. BLM, 914 F.2d 1174, 1180-81 (9th Cir. 1990); Bales Ranch, Inc., 151 IBLA 353, 363 (2000); *see* 40 CFR 1508.9(b). Section 102(2)(E) of NEPA requires consideration of a reasonable range of alternatives to a proposed action, including a no-action alternative. An EA which considers a range of alternatives and gives reasons for BLM's rejection of the alternatives not selected will be upheld when BLM has assessed alternatives that will avoid or minimize the adverse impacts of the proposed action. BCA, 169 IBLA at 347; Defenders of Wildlife, 152 IBLA 1, 9 (2000); Southern Utah Wilderness Alliance, 122 IBLA 334, 338-40 (1992).

In particular, appellants contend that BLM should have more thoroughly considered the directional drilling alternative. *See* SOR at 20-22. BLM considered, but did not analyze in detail, a directional drilling alternative. *See* EA at 2-1; DR/FONSI at 3; Decision at 5-7. It recognized that the directional drilling of several wells from a single location would permit the clustering of surface facilities, generally minimizing surface disturbance and other environmental impacts. BLM, however, declined to analyze the impacts of the alternative because directional drilling was not considered to be "economically or technically feasible" when used to explore for CBM gas deposits underlying the Project Area. (Decision at 6.)

BLM explained in its EA that, in the Almond Formation, coal seams containing CBM gas are often “[t]hin or discontinuous,” making them extremely hard to intersect below the surface, especially since the seams cannot be located from the surface using “current seismic technology.” (EA at 2-1, 2-2; see id. at 2-1; Decision at 6.) BLM concluded that the thin or discontinuous nature of the gas deposits made them “poor prospects” for exploration and development by directional means, since such drilling “requires precise control of target locations in three dimensions.” (EA at 2-1.) BLM noted that directional drilling is estimated to cost from 1.5 to 10 times more than vertical drilling, since it is necessary to drill multiple laterals into the multiple coal seams, but that it would result in “no commensurate increase in production.” Id. It further stated that the costs of directionally drilling any particular lateral “would exceed the return on ultimate gas recovery,” since less gas would be recovered from each seam, given their thin or discontinuous nature.^{10/} Id.

Appellants argue that BLM has not provided a “reasoned explanation supported by * * * evidence” for not analyzing in detail the alternative of undertaking

^{10/} The fact that BLM’s explanation for its decision not to analyze the directional drilling alternative in detail is supported by evidence of record distinguishes the present case from Biodiversity Associates, IBLA 2001-166, where we set aside an SDR decision because of the inadequacy of BLM’s assessment of reasonable alternatives, including a directional drilling alternative. BLM had decided not to analyze that alternative in detail, asserting that much of the project area was “not well-suited” to directional drilling owing to unspecified economic and technical considerations. (Order, Biodiversity Associates, IBLA 2001-166 (Dec. 6, 2001) at 6.) We concluded that the record “lack[ed] evidence * * * to support the reasons offered” for declining to address the alternative in detail and remanded the case to allow BLM to provide the “rational basis” for its decision. Id. at 9; see Michael Gold, 108 IBLA 231, 236-37 (1989), reaffirmed as modified, Michael Gold (On Reconsideration), 115 IBLA 218 (1989). Appellants contend that the Board’s analysis in IBLA 2001-166 applies to this case as well. (Appellants’ Reply at 5.)

On remand in Biodiversity Associates, IBLA 2001-166, BLM issued another DR/FONSI, again specifically declining to consider the directional drilling alternative in detail, but basing its decision on additional analysis, set forth as “Appendix B” to the DR/FONSI for the Vermillion Basin Project, disclosing that the alternative was not economically or technically feasible. See DR/FONSI (Vermillion Basin Project) at 16-26. BLM relied upon that additional analysis in declining to analyze the directional drilling alternative in the present case. See EA at 1-4; Decision at 6. Appellants have made no effort to distinguish that additional analysis, or otherwise to establish that it is not applicable in the present case.

the form of directional drilling referred to as “S-turn directional drilling.”^{11/} (SOR at 21.) They assert that the reasons given by BLM for not analyzing the alternative apply to horizontal drilling but not to S-turn drilling, long advocated by them: “S-turn directional drilling entails a vertical well completion through the target formation, yielding identical reservoir drainage properties to conventional drilling layouts and avoiding all of the challenges which BLM cited as justification for not considering a directional drilling * * * alternative in detail.” Id.; see Reply Brief at 6. Appellants also state that even in the face of technical documentation they provided supporting the use of S-turn drilling in the Project Area, BLM has failed to establish that S-turn drilling is “in any way infeasible or impractical.” (SOR at 22.)

In his decision, the Deputy State Director specifically concluded that appellants had failed to justify consideration of S-turn directional drilling:

S-turn wells have some success in situations where separate sand bodies exist and reservoir characteristics support the additional costs of directional drilling. While BCA recommends this technology, no supporting information was provided on how th[e S-turn] type of drilling might be economically or technically feasible specifically in multi-seam reservoirs containing both coals and sands (such as the Almond Formation) found in the Pacific Rim [P]roject [A]rea. [Emphasis added.]

(Decision at 6.) On appeal to the Board, appellants again fail to establish that S-turn directional drilling in thin or discontinuous deposits is economically or technically feasible. Moreover, they offer no argument or supporting evidence justifying the conclusion that S-turn drilling is either generally “the obvious choice for discontinuous reservoirs at multiple depths” or even appropriate for the circumstances expected in the present case. (Reply Brief at 6; see, e.g., Letter to BLM from BCA, dated Nov. 14, 2003 (Ex. E to SOR) at 6-8.)

We conclude that BLM has provided a “reasoned explanation,” supported by evidence, for its decision not to analyze in detail the directional drilling alternative,

^{11/} Erik M. Molvar, who represents appellants before the Board, authored a Feb. 18, 2003, report entitled “Drilling Smarter: Using Directional Drilling to Reduce Oil and Gas Impacts in the Intermountain West” (Ex. M attached to SOR), in which he described “S-Turn Wells” as follows: “Sometimes known as ‘deviated wells,’ S-turn wells start out in a near-vertical orientation, have a long near-horizontal or diagonal section, and finish by approaching the vertical once again.” (Ex. M at 5.) Slant-hole and horizontal wells were distinguished by the fact that they were generally drilled “at an angle from the vertical” or at a “devia[tion] of more than 75 degrees from vertical,” respectively. Id.

whether it employed horizontal or S-turn drilling. It was sufficient to provide a “brief discussion” of the reasons for eliminating the alternative from “detailed study.” Biodiversity Conservation Alliance, 169 IBLA at 350, citing 46 FR 18026 (Mar. 23, 1981). Appellants have failed to carry their burden of demonstrating that the directional drilling alternative would achieve the intended purpose of the proposed Project at less cost to the environment, but also be technically and economically feasible in the particular circumstances of the present case, and thereby require BLM to consider that alternative in its NEPA analysis. See Colorado Environmental Coalition, 169 IBLA at 144-45; Colorado Environmental Coalition, 165 IBLA 221, 225-26 (2005); Wyoming Outdoor Council, 147 IBLA 105, 114-15 (1998). Accordingly, we are not persuaded that BLM violated section 102(2)(E) of NEPA by failing to analyze the directional drilling alternative in detail here. ^{12/} See, e.g., IMC Chemical, Inc., 155 IBLA 173, 199-200 (2001).

b. Alternative with Larger Buffer Zones for Wildlife

BLM incorporated specific mitigation measures for protecting active sage grouse leks and raptor nests in the Project Area. See DR/FONSI, Appendix B, at B-9; DR/FONSI, Appendix C, at C-5 to C-6; Decision at 8-10. Appellants argue that BLM should have considered an alternative that adopted larger buffer zones around active sage grouse leks and raptor nests. We are not persuaded that the mitigation measures proposed by appellants would, if incorporated in the Project, result in an alternative that would be significantly distinguishable or have substantially different consequences. See Headwaters v. BLM, 914 F.2d at 1180; In Re Blackeye Again Timber Sale, 98 IBLA 108, 111-12 (1987). As the court stated in Headwaters: “NEPA does not require a separate analysis of alternatives which are not significantly distinguishable from alternatives actually considered, or which have substantially similar consequences.” 914 F.2d at 1181. It is sufficient that BLM focused on the environmental impacts of the opposite alternatives of approving the Project and of not approving the Project, i.e., the alternatives that “are at either end of the spectrum” of potential impacts. In Re Blackeye Again Timber Sale, 98 IBLA at 111. This permitted an informed choice by BLM, consistent with the rule of reason, between the basic alternative courses of action, in full compliance with NEPA. Id. at 111-12.

B. BLM Complied with the ESA

^{12/} While we see no error in BLM’s failure to consider the directional drilling alternative, we note that the Project operator(s) are not precluded from undertaking such drilling on any of the 120 wells at issue. See Decision at 6-7 (“As geologic properties are better identified, and as technology in applying these methods become[s] better understood, directional drilling, or multi-pad drilling[,] may become an economically feasible method to extract natural gas in the PRPA”).

[4] We now turn to appellants' contention that BLM failed to consult with FWS concerning the adverse effects of groundwater depletions associated with CBM extraction on the four Colorado River T&E fish species in violation of section 7 of the ESA. (SOR at 50.) Appellants recognize that in 1993 BLM consulted with FWS concerning approximately "69.6 acre-feet" of water obtained from the Rock Springs formation that will be used in connection with the present Project for drilling, pipeline hydrostatic testing, and road dust abatement.^{13/} *Id.* However, they assert that BLM never consulted with FWS concerning depletions that will result from producing large quantities of wastewater in connection with CBM extraction, "which will be orders of magnitude greater than [69.6] acre-feet." *Id.* at 51.

Appellants explain the mechanism by which they state that groundwater depletions are likely to adversely affect T&E fish species downstream of the Project Area. They note that CBM extraction will first entail the dewatering of coal seams, and thus the removal of wastewater "from shallow aquifers of the Almond Formation," followed by the reinjection of this water "into deeper, unconnected aquifers in the Rock Springs formation." (SOR at 52.) They state that the dewatering of the coal seams will, over the 20-year LOP, cause "[d]rawdowns" of water in the "coal aquifers surrounding the [P]roject [A]rea," which, if the drawdown was 10 feet, would "extend as far as 12 miles from the [P]roject [A]rea."^{14/} *Id.* at 51, 53. They note that this translates, in terms of direct impacts of the Project, to "a drawdown of approximately 3.9 million acre-feet" over the LOP, and, in terms of cumulative impacts, "approximately * * * 6.4 million acre-feet" over the LOP. *Id.* at 54. While not fully explained, it appears that appellants anticipate that drawdowns of these magnitudes will negatively impact surface waters in and around the Project Area and that, since these waters eventually flow into the Green River and then the Colorado River, such drawdowns will diminish the quantity of water in the Colorado River, adversely affecting the four Colorado River T&E fish species. In maintaining

^{13/} BLM concluded that "[t]he Proposed Action would deplete approximately 69.6 acre-feet of water during the 2-4 year development period * * *. According to FWS this minor level of water depletion would not result in impacts to the endangered fish found downstream of the PRPA." *See* EA at 4-18, 4-35 to 4-36. The water was expected to be obtained "from properly permitted sources near the [P]roject [A]rea, from wells previously drilled in the [P]roject [A]rea, or from Rock Springs, Wyoming." (EA at 4-18.)

^{14/} BLM explains that a "drawdown" constitutes a "lowering of [the] water level[] in an aquifer," occurring in the present case as follows: "The removal of groundwater from the [affected] coal aquifer results in the reduction of the hydraulic pressure head [in the aquifer], thus lowering the water levels in nearby wells completed in the same coal seam." (EA at 4-18 to 4-19.)

that CBM extraction will result in the removal of large quantities of water, appellants do not identify the extent of such removal, referring only to “orders of magnitude greater than [69.6] acre-feet[.]” (SOR at 51.) They assert that the magnitude of the actual drawdown occasioned by Project CBM extraction is “unknown * * * but likely [will be] quite massive, according to BLM’s analysis.” *Id.* at 54 (emphasis added).

Section 7(a)(2) of the ESA, as amended, 16 U.S.C. § 1536(a)(2) (2000), imposes a substantive obligation on BLM and other Federal agencies to protect T&E species:

Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined * * * to be critical[.] [Emphasis added.]

See, e.g., Natural Resources Defense Council v. Houston, 146 F.3d 1118, 1127 (9th Cir. 1998), cert. denied, 526 U.S. 1111 (1999). When it is determined that a proposed action may affect, and is likely to adversely affect, a T&E species, BLM is required by section 7(a)(2) to formally consult with FWS in order to ensure that such action is not likely to jeopardize the continued existence of the species or destroy or adversely modify its critical habitat. ^{15/} 50 CFR 402.14(a); Natural Resources Defense Council v. Houston, 146 F.3d at 1125; Enos v. Marsh, 769 F.2d 1363, 1368 (9th Cir. 1985); Umpqua Watersheds, Inc., 158 IBLA 62, 81 (2002). Formal consultation is not required when BLM determines, with the concurrence of FWS, that the proposed action may affect, but is not likely to adversely affect, a T&E species. 50 CFR 402.12(k), 402.13(a), and 402.14(b)(1); Natural Resources Defense Council v. Houston, 146 F.3d at 1126; In Re Big Deal Timber Sale, 165 IBLA 18, 32 (2005); Klamath-Siskiyou Wildlands Center, 153 IBLA 110, 115 (2000). No consultation is required when BLM properly determines that a proposed action will not affect a T&E species. See Forest Guardians, 170 IBLA 80, 90 (2006).

In Chapter 3 of the PRPA EA, entitled “Affected Environment,” BLM states that the four T&E fish species of particular concern to appellants “may occur downstream * * * of the Green and Colorado River system.” (EA at 3-70.) BLM indicates that

^{15/} Formal consultation concludes with issuance of a Biological Opinion, which contains a determination by FWS whether the proposed action is likely to jeopardize the continued existence of the species or destroy or adversely modify its critical habitat and, in the case of a jeopardy determination, reasonable and prudent alternatives which BLM can take to avoid violating its substantive obligation under section 7(a)(2) of the ESA. 50 CFR 402.14(g), (h), and 402.15(a).

“[t]he last occurrence of any of these fish species in the Green River in Wyoming was prior to the filling of Flaming Gorge Reservoir in 1963,” and that “[h]abitat for these species is not present within the PRPA and critical habitat for these species has not been designated in Wyoming (Upper Colorado River Endangered Fish Recovery Program 1999).” Id. “However,” states BLM, “the potential for project-related reductions in water quantity and/or quality to these tributaries to the Green River and Colorado River warrant their inclusion in this NEPA document.” Id.

In Chapter 4 of the PRPA EA, entitled “Analysis of Environmental Consequences,” BLM addresses, inter alia, anticipated impacts on water resources resulting from the Project. BLM states, regarding Warren’s proposal for disposing of produced water:

The method used for the disposal of produced water (water produced in association with the shallow gas, which is separated out at the well location) would be accomplished by disposal in one or more injection wells. Subsurface injection of produced water, as opposed to surface discharge, would protect surface water quality by reducing impacts such as increased soil erosion, degradation of surface water quality, and decreased permeability of surface soils that may occur if produced water is discharged in surface ponds or ephemeral drainages. The operator would obtain the permits necessary for the selected disposal method. Depending on timing of availability, quantity, and quality of produced water, some of the produced water could be used in well drilling and completion, pipeline construction, and hydrostatic testing.

(PRPA EA at 4-18.) In describing the impacts of the proposed action, the PRPA EA states further:

All water produced from productive wells would be disposed of in water disposal wells[;] therefore, project activities should not affect these fish species of concern found downstream from the PRPA. If all other mitigation measures for soils and water resources in this document are implemented, no significant impacts to the sensitive fish species found downstream of the PRPA are expected.

Id. at 4-40.

As Appendix A of the PRPA EA, BLM provides a “Summary of Scoping Notice Comments and BLM Responses.” Appendix A explains that the Scoping Notice was released for a 30-day public review period on October 17, 2004, and that it reviewed the letters received to determine whether a determination other than a FONSI was warranted. On the subject of disposal of produced water, BLM stated: “Produced

water from individual wells would be collected and reinjected in approved and permitted disposal wells located in the project area. * * * Produced water would be injected into water disposal wells; therefore, produced water is not expected to have any impacts upon the endangered species found downstream from the PRPA.” (PRPA EA, Appendix A, at A-9.)

BLM rendered a “no [e]ffect” determination for the Project concerning the four Colorado River T&E fish species. (E-Mail from Keith to Erwin dated Aug. 24, 2004; Letter from BLM to FWS dated Aug. 16, 2004, at 2; Decision at 14.) Such a determination is consistent with BLM’s FONSI. We have referred to the August 16, 2004, letter erroneously requesting formal consultation concerning the four Colorado River T&E fish species. This August 16 letter constitutes BLM’s request for FWS’ concurrence on a series of determinations regarding T&E species potentially affected by the Project, including the four Colorado River fish species. In its subsequent August 24, 2004, e-mail, BLM informed FWS that the request was based upon its erroneous impression that water depletions would result from use of water for dust abatement, drilling, and pipeline hydrostatic testing. FWS’ August 27, 2004, memorandum confirms that BLM’s prior 1993 consultation with FWS concerned only the effects of obtaining municipal water from Rock Springs for use in drilling, pipeline hydrostatic testing, and dust abatement associated with the Project. Water for the Project will continue to be purchased from the Joint Powers and Water Board in Rock Springs. See Appendix D of EA. FWS stated its concurrence with BLM’s determination that consultation for water depletions resulting from Warren’s use of water in drilling, testing, and dust abatement was not required. In its memorandum, FWS does not refer to disposed water. We conclude that BLM’s erroneous request for formal consultation, which was retracted with FWS’ concurrence, related only to water to be used in Project activities and not to produced water. There was no further mention of produced water because, based upon the foregoing, BLM concluded, based upon the analysis in the EA, that the removal of wastewater associated with CBM extraction from the Almond coal aquifers was not likely to affect the four Colorado River T&E fish species. (Decision at 13-14.) FWS did not signal any further need for consultation regarding potential impacts to the Colorado River fish species resulting from disposal of produced water or from water used in Project activities.

We conclude from the record that FWS does not mention produced water specifically in its August 27, 2004, memorandum because BLM had sought concurrence with its “no effect” determination regarding used water. Further, the record contains no evidence that FWS viewed Warren’s disposal of produced water as potentially adversely affecting the four T&E fish species, thus requiring consultation. Certainly, BLM had concluded that produced water would not affect the species. Since we are not persuaded that the Project “may affect” any T&E fish species, we hold that BLM was not required to formally consult with FWS, concerning the impact

of the Project on such species. We conclude that BLM did not violate section 7 of the ESA by failing to engage in such consultation.^{16/} National Wildlife Federation, 126 IBLA at 65-66.

We, therefore, conclude that the Deputy State Director, in his November 2004 decision, properly affirmed the Field Manager's September 2004 DR/FONSI, approving the Pacific Rim Shallow Gas Exploration and Development Project.

To the extent not explicitly or implicitly addressed herein, all other errors of fact or law alleged to have been committed by BLM are found to be contrary to the facts or law, or immaterial.

Accordingly, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decision appealed from is affirmed.

James F. Roberts
Administrative Judge

I concur:

David L. Hughes
Administrative Judge

^{16/} Should it be determined at any point during the implementation of the Project that any approved activity may affect a T&E fish species, BLM is required to consult with FWS and to take appropriate action to alter or modify the Project, precluding or restricting the activity, in order to ensure compliance with section 7 of the ESA. Forest Guardians, 170 IBLA at 93-94, citing Wyoming Outdoor Council v. Bosworth, 284 F. Supp. 2d 81 (D.D.C. 2003); Southern Utah Wilderness Alliance, 122 IBLA 6, 15-16 (1991).