Chapter 2 — Alternatives

This chapter covers four primary topics. First, it describes scoping that BLM conducted for the analysis. Second, it describes the alternatives that were analyzed in detail. The specific features of these alternatives are fully described. Third, it identifies alternatives that were considered and eliminated from detailed study and briefly describes the rationale for dismissal. Finally, it presents, in summary and comparative form, the components and environmental effects of the alternatives analyzed in detail and it identifies the agencies' preferred alternative.

Although a range of alternatives was developed, not all of these alternatives were analyzed in detail. Some were deemed unreasonable during the feasibility screening. Others were eliminated after initial analysis indicated they were not reasonable.

The alternatives developed for this NEPA analysis are described in two overall sections. The alternatives analyzed in detail are described first. A section on Alternatives Considered but Eliminated follows the alternatives analyzed in detail.

Scoping

Scoping for the NEPA analysis began on December 16, 2004 with the publication of an NOI to prepare an EA in the *Federal Register*. The NOI was published to inform the public of BLM's intent to conduct an environmental analysis in response to the Court's rulings. The notice also solicited comments to assist BLM in identifying specific issues and concerns that it should address in the analysis. The comment period ran from December 16, 2004 through January 18, 2005.

BLM reviewed and analyzed the comments that were received in response to the NOI. BLM received 18 letters and e-mails and identified several issues that would drive the analysis and development of alternatives. These issues are:

- ground water drawdown from CBNG production activities and effects on water well users;
- effects of surface discharge of water produced from CBNG wells (both its quality and quantity), including direct discharges of treated or untreated water to drainages, discharges to impoundments, and land application disposal (LAD);
- effects on important wildlife habitats, such as fragmentation of riparian corridors (bald eagle nesting and winter roost habitats) and sage grouse habitats; and

- the relationship between human health and the potential for water produced from CBNG wells to contribute to the spread of West Nile virus (WNV) by providing breeding habitats for the mosquitoes that carry the virus.

Additional issues were identified from the scoping comments, including considering a basin-wide analysis of leasing, phased development, interactions between WNV and sage-grouse, changes in the thermal regimes of streams, and contamination of ground water resulting from hydro-fracturing. The basin-wide analysis of leasing and phased development issues were used to develop alternatives that were ultimately not evaluated in detail or were not used in the analysis. The other issues were not considered in detail because they were not issues that were known during the time of issuance of the 285 leases.

Alternatives Analyzed in Detail

A reasonable range of comprehensive alternatives was developed to address particular environmental issues that could have been foreseeable at the time the leases were offered for sale. Five of these alternatives were analyzed in detail. They include the No Action Alternative (Alternative 1), which would affirm the previous issuance of the 285 leases under the conditions and mitigation measures developed in the PRB O&G Final EIS. Alternative 2 would modify the previously issued leases to include only standard lease terms (SLT). Alternative 3 would modify the previously issued leases by adding additional protective measures for the CBNG wells. Alternative 4 would modify the previously issued leases to eliminate the surface disposal of produced water from CBNG wells. Under Alternative 5, BLM would modify the 285 previously issued leases to prohibit the development of CBNG. With regard to CBNG, this would have the same effect as canceling the leases. Development of conventional oil and gas from these leases would be unaffected.

The following sections describe the five alternatives analyzed in detail. First, the features common to multiple alternatives are described. Each alternative is then described in turn. These individual descriptions focus on the features specific to the alternative.

Features Common to Multiple Alternatives

Several alternatives analyzed in detail involve similar features. These features are described below. The sections on the individual alternatives that follow this section focus on features unique to each alternative.

Development of CBNG

Where the development of CBNG would be permitted under the alternatives, development would occur as described for the proposed action in the PRB O&G Final EIS. Wells would be drilled primarily on an 80-acre spacing pattern overall, unless they fall within the Wyoming Oil and Gas Conservation Commission (WOCC) 40-acre spacing exception areas (Figure 1–1). In addition, separate wells may be developed for each coal bed at the prevailing spacing pattern. De-

velopment of wells by coal bed is described in the PRB O&G Final EIS (U.S. Bureau of Land Management 2003:2–15).

Development of the leases would occur in three primary phases: drilling of wells and construction of production facilities, production and maintenance, and decommissioning and reclamation. Each phase is discussed below.

Drilling of Wells and Construction of Production Facilities

In addition to drilling the wells, the first phase of development includes constructing well access roads, well pads, well production facilities, pipelines, facilities to gather and dispose of produced water, central metering facilities, electrical power utilities, and the gas delivery system. Drilling of wells and construction of production facilities are described in detail in the PRB O&G Final EIS (U.S. Bureau of Land Management 2003:2-20–2-36). The CBNG wells would be developed over a 10-year period.

Production and Maintenance

The production and maintenance phase involves maintaining the wells and their associated facilities to keep the wells producing CBNG. Access roads, wells, pipelines, and electrical utilities would be subject to routine inspections and maintenance over the projected seven-year productive life of the CBNG wells. In addition, workovers of the wells would be conducted to ensure the wells are maintained in good condition and that they are capable of extracting CBNG as efficiently as possible. Activities comprising the production and maintenance phase are described in detail in the PRB O&G Final EIS (U.S. Bureau of Land Management 2003:2-36–2-39).

One of the key issues regarding the production of CBNG is the disposal of water produced by the wells. The primary means for disposing of CBNG-produced water is surface disposal. Three methods of surface disposal occur in the PRB: direct surface discharge to ephemeral drainages, disposal into impoundments, and land application disposal (LAD). These types of disposal are briefly summarized below and discussed in more detail in the PRB O&G Final EIS (U.S. Bureau of Land Management 2003:2-25–2-29)

Surface Discharge to Drainages

Under this method of disposal, produced water is gathered from CBNG wells and discharged at outfalls authorized according to guidance and requirements of the State of Wyoming (WDEQ). Produced water may be discharged from outfalls directly into ephemeral drainages or it may be treated and discharged. Water produced from CBNG wells that is discharged to the surface may be suitable for irrigation and may be diverted for that purpose.

Impoundments

The Wyoming State Engineers' Office (WSEO) authorizes impoundment of CBNG-produced water through a reservoir-permitting program (outlined below) for water produced during the recovery of CBNG (Tyrrell 2004). On-channel and off-channel impoundments may be built to store CBNG-produced water. When discharges of water from CBNG wells cease, dams must be conditioned to allow

breaching, releases, or reduction in size for proper water administration and allocation to downstream users, if required. The landowner must consent and commit to long-term maintenance of the structure after production of CBNG water ceases and the impoundment is no longer needed for producing CBNG.

Siting guidelines and permitting requirements for impoundments have been established by WDEQ to protect downstream water quality (Wyoming Department of Environmental Quality 2002a). Compliance monitoring for protection of ground water resources beneath unlined impoundments containing CBNG-produced water also is regulated by WDEQ (Parfitt 2004). Compliance monitoring well(s) may be required where shallow ground water is encountered beneath a reservoir.

An on-channel impoundment is a reservoir constructed in the channel of a stream or river. This impoundment may not capture natural runoff from the drainage in which it is located unless the runoff captured would exceed the average annual peak runoff event. Captured runoff must be released to satisfy downstream senior appropriators, if needed. Where storage of CBNG-produced water by an operator/producer is the sole use, reservoirs are limited to a life of 15 years or until the facility ceases to receive discharges of water from CBNG wells. Where the landowner intends to keep the reservoir for other uses after storage of CBNG water discharges ceases, the impoundment does not have a limited life.

Off-channel impoundments (impoundments not located on the stream channel) must be positioned so that the potential to store surface runoff is minimal. Bypass facilities or berms may be used to preclude surface runoff from entering the pond. Impoundments that store no surface runoff need not be designed with an outlet. Any runoff impounded must be passed to downstream senior appropriators, if required. The beneficial use of CBNG-produced water includes inactive use (evaporation and infiltration) and active use (discharge at specified points for land application or leach field). Impoundments are allowed multiple or continuous fills from CBNG sources only. Where a surface drainage has flow only because of CBNG wells discharging in the area, and no natural flow is available, the water is not subject to a downstream priority call allocation for irrigation.

Land Application Disposal

Produced water that is disposed of using LAD would be spread on the land surface of an LAD site using irrigation equipment, generally center-pivot irrigation system. All water would be contained within the LAD site.

Disposal would be accomplished using water that is pretreated using disposal-rest rotation cycle consisting of repeated phases of disposal, soil amendment, rest, and disposal until the limitations of repeated soil amendments are reached. Upon abandonment, the site would be reclaimed. LAD sites would not be designed as traditional irrigation sites, in that irrigation return flows would not be anticipated because the produced water would be applied at agronomically acceptable rates and consumptive use by crops would be 100 percent.

Decommissioning and Reclamation

As wells surpass their productive lives, the wells and associated facilities would be decommissioned and reclaimed. Dry holes would be reclaimed following the same procedures, except that reclamation would begin as soon as possible after the decision is made that the well would not produce or that it is depleted of gas. In general, all surface facilities, including roads, wells, well pads, and aboveground electrical utilities would be removed and the land recontoured and reseeded with native species. Underground pipelines and electric lines would be cleaned (pipelines only), disconnected, and abandoned in place to avoid any unnecessary disturbance. Activities comprising the decommissioning and reclamation phase are described in detail in the PRB O&G Final EIS (U.S. Bureau of Land Management 2003:2-369–2-40).

Alternative 1 — No Action

Under this alternative, BLM would affirm the issuance of the 285 leases with the stipulations prescribed in the 1985 RMP. Appendix P of the PRB O&G Final EIS summarizes these stipulations and lease notice.

Mitigation from the ROD for the PRB O&G Final EIS (Appendix A) would be applied post leasing as Conditions of Approval (COAs) when Applications for Permit to Drill (APDs) are approved. Therefore, these measures are incorporated as part of this alternative.

Under this alternative, as many as 2,537 additional CBNG wells would be developed on the 285 leases. These wells would be drilled from as many as 1,657 well pads.

Alternative 2 — Standard Lease Terms and Lease Notice

Under this alternative, BLM also would affirm the issuance of the 285 leases. However, BLM would modify the lease terms so that only the SLT and Lease Notice No. 1 are applied. No other protective measures, which includes stipulations from the 1985 RMP, would be applied during leasing.

Although BLM may apply protective measures during post leasing as COAs when APDs, Sundry Notices (SNs), or Plans of Development (PODs) are approved, they are not considered part of this alternative. Water handling procedures would be the same as for Alternative 2A in the PRB O&G Final EIS. The RMP would be amended to reflect the changes in procedures for leasing and COAs.

Development of these leases would parallel that described for Alternative 1. CBNG would be developed on the 285 leases that overlie coal beds that are the sources of CBNG in the PRB. Under this alternative, as many as 2,537 additional CBNG wells would be developed on the 285 leases. These wells would be drilled from as many as 1,657 well pads.

Alternative 3 — Lease Terms Modified to Protect Sage-grouse, Proposed Areas of Critical Environmental Concern, and Wildlife/Riparian Corridors

Under this alternative, BLM would affirm the issuance of the 285 leases under the 2003 terms and conditions with the following exception: portions of the leases located within proposed Areas of Critical Environmental Concern (ACECs) would be cancelled for development of CBNG (they would still be open to development of conventional oil and gas resources). Portions of the leases located outside the ACECs would still be open to development of CBNG. Furthermore, lease terms of the 285 leases would be modified to add the following stipulations:

- No Surface Occupancy (NSO) within 500 feet of surface water and riparian areas to provide wildlife corridors;
- NSO within 0.25 mile of sage grouse strutting and dancing grounds known as leks;
- Timing Limitation Stipulation (TLS) that precludes new surface-disturbing activities in greater sage-grouse nesting habitats within a radius of 3 miles from a lek from March 1 through June 15 (this 3-mile radius includes an inner radius of 0.25 miles where the NSO stipulation applies and an outer radius of 2.75 miles that is subject to the TLS).

The RMP would be amended to reflect the changes in leasing stipulations.

Because of the above changes and stipulations, fewer wells and well pads would be constructed under this alternative relative to alternatives 1 and 2. The elimination of development of CBNG in ACECs would involve four leases and 1,575 acres. Because of the above stipulations, about 65 fewer wells and 21 fewer well pads would be constructed under this alternative relative to alternatives 1 and 2. Under this alternative, as many as 2,477 additional CBNG wells would be developed on the 285 leases. These wells would be drilled from as many as 1,638 well pads.

Alternative 4 — No Surface Disposal of Produced Water

Under this alternative, BLM would affirm the issuance of the affected leases, but would modify the lease terms of the affirmed leases to add the following special stipulation that minimizes CBNG-specific impacts to water resources. Surface disposal of water produced by CBNG wells would not be approved. Thus, none of the surface discharge facilities described above would be constructed under this alternative. Instead, produced CBNG water would be captured and actively injected into aquifers. Additionally, produced CBNG water could be injected only if the injection zone is capable of accepting the anticipated volume without adverse impacts to ground water resources. Consequently, if no appropriate injection zones can be identified, no development of CBNG would occur on those leases.

Under Alternative 4, approximately 381 CBNG wells would be constructed on the 285 leases. These wells would be drilled from as many as 263 well pads. While developing this alternative, BLM considered the limitations of injection discussed in the PRB O&G Final EIS, the extent of injection already developed in the PRB and the extent of injection likely to be developed by operators in the near future. After evaluating these limitations and considerations, BLM estimated development of CBNG would be limited to about 15 percent of development that would occur with the injection stipulation. Thus, development under this alternative was projected at 381 CBNG wells instead of 2,537 wells. Using this information, the likely number of injection wells that would be constructed for the water produced by CBNG wells under this alternative would be about 44. The disturbances associated with the injection wells were estimated using the same assumptions identified in the PRB O&G Final EIS (U.S. Bureau of Land Management 2003: 2–29).

Alternative 5 — No CBNG Development on Leases

Under this alternative, BLM would affirm the issuance of the affected leases, but would modify the lease terms of the affirmed leases to preclude the use of the lease for developing CBNG. The leases would still be available for the development of conventional oil and gas resources. Thus, no CBNG wells or associated facilities would be constructed under this alternative.

Alternatives Considered but Eliminated from Detailed Analysis

Three alternatives were considered but eliminated from detailed analysis. They are described below along with the reasons for their dismissal.

Basin-wide Leasing Analysis

Comments submitted during scoping assert that a basin-wide leasing analysis was more appropriate rather than the more limited scope identified in the NOI. This analysis would reconsider leasing for CBNG throughout the entire PRB.

The decision to eliminate this alternative from detailed analysis was based on three primary considerations. First, development of CBNG already has occurred on a substantial number of leases throughout the PRB. Second, the Court's decision was narrowly defined. Finally, BLM is conducting a plan-level analysis (the prospective EA) for future leasing.

Phased Development

Comments submitted during scoping assert that phased development should be considered for the leases. Phased development involves controlling the development of the leases so that CBNG is produced only in one geographic area at a time. Once production is completed in an area, development would proceed to another geographic area.

The decision to eliminate this alternative from detailed analysis was made because phased development could not be reasonably implemented on the 285 leases. These leases are distributed across the entire PRB (Figure 1–1). Development has occurred around them and will continue to occur around the leases. In essence, the leases are too small and widely distributed for phased development to realistically limit development to a single geographic area at any specific time. Also, implementation of this alternative would not allow BLM to implement its policy objectives for developing energy resources as described in Chapter 1.

No Leasing

Under this alternative, BLM would rescind the 285 leases for all development. Thus, no CBNG or conventional oil and gas resources would be developed. The decision to eliminate this alternative from detailed analysis was made because its implementation would not allow BLM to implement its policy objectives for developing energy resources as described in Chapter 1. Drainage of federal oil and gas resources would occur. In addition, some of the leases already have been developed and effects of this development have occurred.

Summary of Alternatives and Environmental Consequences

The five alternatives considered in detail vary in the potential number of new wells, potential number of new pads, and projections of short-term and long-term disturbances. Alternatives 1, 2, and 4 would have the greatest potential numbers of new wells and pads (Table 2–1). Implementation of Alternative 5 would result in no new wells or pads being constructed.

Table 2–1 Distribution of CBNG Wells and Pads for the 285 Leases by Sub-watershed — Alternatives 1, 2, 3, and 4

	Potential Number of New Facilities by Alternative					
	1 and 2		3		4	
Sub-watershed	Wells	Pads	Wells	Pads	Wells	Pads
Antelope Creek	20	20	20	20	18	18
Clear Creek	564	294	564	294	72	39
Crazy Woman Creek	378	356	378	356	0	0
Little Powder River	160	156	160	156	37	37
Middle Powder River	163	81	163	81	49	24
Salt Creek	23	23	23	23	0	0
Upper Belle Fourche River	86	81	86	81	22	19
Upper Cheyenne River	15	15	15	15	0	0
Upper Powder River	405	258	345	239	132	95
Upper Tongue River	723	373	723	373	51	31
Total[1]	2,537	1,657	2,477	1,638	381	263

Note:
1. Total may not match precisely with the value obtained by adding unit numbers because of rounding conventions.

Implementation of all alternatives evaluated in the EA except Alternative 5 would cause both short-term and long-term disturbances. Alternative 5 would result in no new short- or long-term disturbances. Short-term disturbances would be highest under Alternatives 1 and 2. Short-term disturbances for Alternatives 1 and 2 and Alternative 4 would vary by 11,563 acres (Table 2–2). Estimates of long-term disturbances resulting from the alternatives would vary similarly (Table 2–2). Short-term and long-term disturbances were estimated using the same methods used in the PRB O&G Final EIS.

Table 2–2 Summary of Estimated CBNG Disturbances Associated with Alternatives, 1, 2, 3, and 4

	Disturbance by Alternative (acres)					
	Alternatives 1 and 2		Alternative 3		Alternative 4	
Sub-watershed	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term
Antelope Creek	540	198	540	198	478	170
Clear Creek	2,008	1,134	2,008	1,134	191	75
Crazy Woman Creek	2,570	1,179	2,570	1,179	0	0
Little Powder River	1,661	670	1,661	670	369	134
Middle Powder River	659	336	659	336	159	64
Salt Creek	713	263	713	263	0	0
Upper Belle Fourche River	442	192	442	192	94	36
Upper Cheyenne River	96	42	96	42	0	0
Upper Powder River	1,562	784	1,419	698	465	178
Upper Tongue River	3,276	1,716	3,276	1,716	209	79
Total[1]	13,528	6,516	13,385	6,430	1,965	736

Note:
1. Total may not match precisely with the value obtained by adding unit numbers because of rounding conventions.

The matrix presented in Table 2–3 provides a comparison summary of the effects to the various environmental resources that would occur by implementing each of the five alternates.

Table 2–3 Comparison of Effects by Alternative

Element	Alternative 1	2	3	4	5
Volume of Water Produced by the new CBNG Wells	147,698 acre-feet	147,698 acre-feet	144,156 acre-feet	22,216 acre feet	0 acre feet
Volume of Produced Water Released to Surface Drainages or Impoundment	118,000–148,000 acre-feet	118,000–148,000 acre-feet	115,000–137,000 acre-feet	0 acre-feet	0 acre-feet
Water Levels in Alluvium would Increase	Yes	Yes	Yes	No	No
Disposal of CBNG-produced water would affect surface drainages	Yes	Yes	Yes, but slightly less than Alternatives 1 or 2	No	No
Volume of CBNG Produced over the life of the Wells	1 trillion cubic feet	1 trillion cubic feet	Slightly less than 1 trillion cubic feet	0.1 trillion cubic feet	0 cubic feet
Areal Extent of Soils Disturbed					
Short term	13,528 acres	13,528 acres	13,385 acres	1,965 acres	0 acres
Long term	6,516 acres	6,516 acres	6,430 acres	736 acres	0 acres
Areal Extent of Vegetation Disturbed					
Short term	13,528 acres	13,528 acres	13,385 acres	1,965 acres	0 acres
Long term	6,516 acres	6,516 acres	6,430 acres	736 acres	0 acres
Wetlands/Riparian Areas	Small portion of existing wetlands/riparian areas would be disturbed.	Greater disturbance likely than under Alternative 1 because stipulations and protective measures would not be included.	NSO stipulation would slightly reduce the likely effects to wetlands/ riparian areas from Alternative 1.	Effects to wetlands/ riparian areas would be less than Alternatives 1, 2, or 3.	No new effects to wetlands/ riparian areas.
Areal Extent of Elk Ranges Disturbed					
Total short term	902 acres	902 acres	826 acres	699 acres	0 acres
Total long term	443 acres	443 acres	397 acres	269 acres	0 acres
Areal Extent of Mule Deer Ranges Disturbed					
Total short term	13,185 acres	13,185 acres	13,044 acres	1,716 acres	0 acres
Total long term	6,384 acres	6,384 acres	6,300 acres	647 acres	0 acres
Areal Extent of Pronghorn Ranges Disturbed					
Total short term	11,782 acres	11,782 acres	11,677 acres	1,737 acres	0 acres
Total long term	5,718 acres	5,718 acres	5,655 acres	649 acres	0 acres

Table 2–3 Comparison of Effects by Alternative

Element	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Areal Extent of White-tailed Deer Ranges Disturbed					
Total short term	1,087 acres	1,087 acres	1,076 acres	51 acres	0 acres
Total long term	509 acres	509 acres	503 acres	19 acres	0 acres
Raptors	Would affect raptors present in the analysis area.	Would affect raptors to a greater degree than Alternative 1 because stipulations and protective measures would not be included.	Would affect raptors similarly to Alternative 1.	Would affect raptors to a lesser degree than Alternatives 1, 2, or 3.	No new effects to raptors.
Sharp-tailed Grouse	Would affect the grouse present in the analysis area.	Would affect the grouse to a greater degree than Alternative 1 because stipulations and protective measures would not be included.	Would affect the grouse similarly to Alternative 1.	Would affect the grouse to a lesser degree than Alternatives 1, 2, or 3.	No new effects to the grouse.
Waterfowl	Minimal effects to waterfowl. Some potential for beneficial effects with surface water disposal facilities.	Same as Alternative 1.	Similar to Alternative 1, but slightly lower because of fewer CBNG wells.	Very limited effects to waterfowl because few CBNG wells would be constructed.	No effects to waterfowl.
Migratory Birds (habitats disturbed)					
Total short term	11,782 acres	11,782 acres	11,677 acres	1,737 acres	0 acres
Total long term	5,718 acres	5,718 acres	5,655 acres	649 acres	0 acres
Aquatic Species	Stream crossings and surface discharges would affect habitats for aquatic species.	Would affect aquatic species to a greater degree than Alternative 1 because stipulations and protective measures would not be included.	Would affect aquatic species similarly to Alternative 1.	Would affect aquatic species to a much smaller degree than Alternatives 1, 2, or 3.	No effects on aquatic species.
Threatened, Endangered, & Sensitive Species					
Bald Eagle	Likely to adversely affect	Likely to adversely affect	Likely to adversely affect	May adversely affect	Would not affect.
Black-footed ferret	May affect, but is not likely to adversely affect	May affect, but is not likely to adversely affect	May affect, but is not likely to adversely affect	May affect, but is not likely to adversely affect	Would not affect.
Ute Ladies'-tresses	Likely to adversely affect	Likely to adversely affect	Likely to adversely affect	Likely to adversely affect	Would not affect.

Table 2–3 Comparison of Effects by Alternative

Element	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Greater Sage Grouse	Would affect, but stipulations would protect leks and nesting areas.	Would greatly affect because no stipulations would be available to protect leks and nesting areas.	Would affect, but stipulations would protect leks and nesting areas to a greater degree than under Alternatives 1 or 2 because of expanded TLS.	Would affect, but stipulations would protect leks and nesting areas.	Would not affect.
Cultural Resources	342 sites potentially affected.	Same as Alternative 1.	341 sites potentially affected.	31 sites potentially affected.	0 sites potentially affected.
Areal extent of Land Uses affected					
Total short term	13,185 acres	13,185 acres	13,044 acres	1,716 acres	0 acres
Total long term	6,384 acres	6,384 acres	6,300 acres	647 acres	0 acres
Visual Resources					
No. pads in Class II areas	14	14	14	3	0
No. pads in Class IIL areas	101	101	101	17	0
No. pads in Class IV areas	1,535	1,535	1,529	404	0
No. pads in Class V areas	7	7	7	3	0
Recreational Resources	Primary facilities would displace dispersed recreational activities. However, reservoirs may provide some additional recreational opportunities.	Potentially greater than Alternative 1 because stipulations and protective measures for other resources would not be included. Effects to these other resources could affect recreational opportunities.	Effects similar to Alternatives 1 and 2, but slightly less because fewer wells would be constructed.	Effects substantially less than under Alternatives 1, 2, and 3. Also, with no surface disposal, no reservoirs would be built that could provide some additional recreational opportunities.	No effects.
West Nile Virus	Unlikely to have any effect on the overall spread of WNV.	Unlikely to have any effect on the overall spread of WNV.	Unlikely to have any effect on the overall spread of WNV.	Would not have any effect on the overall spread of WNV.	Would not have any effect on the overall spread of WNV.
Socioeconomics					
Royalties	$192,456,460	$192,456,460	$188,432,980	$47,879,412	$0
Sale and Use Taxes	$76,982,584	$76,982,584	$75,373,192	$19,151,765	$0
Ad Valorem Taxes	$6,892,897	$6,892,897	$6,756,817	$1,689,192	$0

Table 2–3 Comparison of Effects by Alternative

Element	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Air Quality	Would contribute to localized, short-term increases in concentrations of CO, NO_x, PM_{10}, and SO_2. However, none of these concentrations would exceed applicable NAAQS or WAAQS.	Same as Alternative 1.	Essentially the same as Alternative 1.	Would contribute much less to the localized, short-term increases.	Would not have any effects on air quality.