EXECUTIVE SUMMARY
OF THE DRAFT
ENVIRONMENTAL IMPACT STATEMENT FOR THE
PROPOSED COTTEREL WIND POWER PROJECT
AND DRAFT RESOURCE MANAGEMENT PLAN AMENDMENT
BURLEY, CASSIA COUNTY, IDAHO

This Executive Summary is intended to be a synopsis of the *Cotterel Wind Power Project Draft Environmental Impact Statement and Draft Resource Management Plan Amendment* for the reader. The detailed analysis of the Proposed Action, alternatives to the Proposed Action, and the disclosure of impacts is displayed in detail in the DEIS, available both on CD and in hard copy formats. The Draft Environmental Impact Statement (DEIS) is also available to the reader on the internet at www.id.blm.gov/planning/cotterel.

INTRODUCTION

In March, 2001, the Bureau of Land Management, Burley Field Office, Burley, Idaho (BLM) received an application from Windland, Inc. (the Applicant) for a right-of-way (ROW) to construct, operate and maintain a wind-driven electric power generation facility on Cotterel Mountain. The BLM accepted this application and initiated a *Notice of Intent to Prepare an EIS and Amend the Cassia Resource Management Plan, 1985* (Cassia RMP) in the Federal Register on December 19, 2002. This triggered an initial public scoping period that ran for 60 days and concluded on February 21, 2003. The process for analyzing the proposal and alternatives began with the publication of the Notice of Intent and was consistent with the requirements of the *National Environmental Policy Act, 1969* (NEPA).

SCOPING

Significant Issues Identified through Scoping and Used to Develop Alternatives

Public, government-to-government, and interagency scoping for issues was accomplished early in the analysis process through public meetings, scoping documents, interagency meetings, and internal BLM interdisciplinary discussions and continues today. Issues that emerged during the analysis process were also considered in formulating the scope of work and the alternatives. The issues considered to be significant and addressed in detail include:

- Sage-grouse conservation
- Maintaining and protecting tribal treaty rights or heritage links to public lands
- Migratory birds including raptor migration
- Threatened and Endangered Species Protection
- Maintain public access

- Visual resources protection
- Consistency with the Cassia RMP

Other Issues and Concerns Addressed:

- Air quality (dust in communities during construction)
- Ridgeline and cultural significance to tribes
- Historical migration routes of tribes
- Water resources, including surface, groundwater and springs
- Noise/vibration/harmonics
- Vegetation restoration
- Noxious weeds control
- Wildlife conservation
- Wind turbine effects on birds and bats
- Direct and indirect wildlife habitat loss
- Mule deer winter range Interruption
- Increase human activity on Cotterel Mountain and effects on wildlife
- Cultural and historic resources protection
- Community economic stability
- Land use changes
- Changing private land values
- Increased traffic on local roads during construction
- Livestock grazing interruption
- Recreation opportunity changes

Issues Deemed Outside the Scope of the DEIS:

- Future Bighorn Sheep relocation
- Loss of sage-steppe habitat due to overgrazing
- Other sources of energy opportunities
- Manufacture of wind turbines outside the United States (U.S.)

LEAD, COOPERATING AND PARTICIPATING AGENCIES

The **BLM** is the lead federal agency responsible for conducting the preparation of the draft and final Environmental Impact Statement (EIS) and the associated analysis. The responsible official will be the Assistant Director for Minerals, Realty, and Resource Protection, BLM, Washington D.C.

Cooperating agencies are federal agencies that have jurisdiction by law (40 Code of Federal Regulations (CFR) Section 1501.6) and may or will make a decision relative to the Cotterel Wind Power Project (Proposed Project) based on the analysis disclosed in this EIS. Cooperating agencies may also have special expertise or have information that will assist in development of the analysis. In

this analysis, the cooperating agencies include the **Bonneville Power Administration (BPA), U.S. Fish and Wildlife Service (USFWS), Idaho Department of Lands, Bureau of Reclamation (BOR), and Cassia County Commissioners,** representing the local government.

The **Idaho Department of Fish and Game** (IDFG) is a participating agency and is providing input relevant to wildlife and wildlife habitat.

GOVERNMENT-TO-GOVERNMENT CONSULTATION

The U.S. has a unique legal relationship with Indian tribal governments as set for in the Constitution of the U.S., treaties, statutes, Executive Orders, and court decisions. Since the formation of the Union, the U.S. has recognized Indian tribes as domestic dependent nations under its protection. The Federal Government has enacted numerous statutes and promulgated numerous regulations that establish and define a trust relationship with Indian Tribes.

In this analysis, the BLM has formally initiated consultation with the sovereign nations of the Shoshone-Bannock and the Shoshone-Paiute Tribes. This consultation has been initiated with these Tribal Governments in the manner as requested by them and is ongoing throughout the analysis.

INTERAGENCY WIND ENERGY TASK TEAM (IWETT)

The IWETT is a core group of wildlife biologists from the Bureau of Land Management, U.S. Fish & Wildlife Service, and the IDFG that was developed under charter in 2004 by the BLM. This team is a cooperative interagency effort, specifically formed to assist in the development of alternatives and mitigation recommendations for wildlife and wildlife habitat. This team will continue to work together in the development of effectiveness monitoring and adaptive management processes.

THE APPLICANT

Windland, Inc, a Boise-based private wind energy development company, in partnership with Shell Wind Energy, Inc., a subsidiary of the Royal Dutch/Shell Group, is proposing to build a wind energy facility along the Cotterel Mountain, a linear north-south, 16-mile ridgeline located in southeast Idaho between the towns of Albion on the west, and Malta on the east. The Proposed Project would be located in Cassia County, Idaho and situated primarily on public lands managed by the BLM. There is a small amount of Idaho State Land and privately-owned land associated with the Proposed Project.

PURPOSE OF AND NEED FOR PROPOSED ACTION

The purpose of the Proposed Action is to develop an economically-feasible, wind-powered electric generation facility on Cotterel Mountain that will provide an alternative renewable energy source to help supplement existing and future energy demands.

The need for the Proposed Action is demonstrated by growing demand for electricity in the northwest and the need to provide an electricity source alternative to traditional energy generation sources such as coal and gas-fired power plants, and hydro-power facilities. This proposal also meets the national

need to reduce reliance on foreign energy markets. The Applicant is responding to the BPA and Idaho Power's Requests for Proposals to include wind energy resources as a percentage of their energy portfolios.

The Department of the Interior, more specifically the BLM, in implementing the *President's National Energy Policy*, is seeking opportunities to develop renewable resources including wind energy. The Cotterel Mountain location contains the prerequisite conditions to fulfill the Proposed Action. These criteria include the presence of an adequate wind energy resource, adequate construction access, and adequate transmission capability to carry the power produced to consumer markets. The Cotterel Mountain site meets these criteria and is therefore being analyzed in detail in this DEIS.

CONFORMANCE WITH EXISTING RESOURCE MANAGEMENT PLAN

The BLM existing Cassia RMP does not address wind energy development. At the time of preparation of the Cassia RMP, wind was not considered as a potential energy source in Idaho, hence Cotterel Mountain was not considered as a wind energy site and the Proposed Action is not consistent with the Cassia RMP. The Proposed Project would require an amendment to the plan should the decision be made to grant a ROW for wind energy development on Cotterel Mountain. The draft plan amendment to the Cassia RMP is displayed in Chapter 2, Proposed Action and Alternatives, and is available to the reader for comment. The Proposed Action and alternatives are consistent with the Cassia RMP in meeting all other land management objectives.

DECISIONS TO BE MADE

Bureau of Land Management (Lead Agency)

The BLM will make a decision whether or not to grant a ROW to allow for the construction, operation, and maintenance of a wind energy project on federal lands. The BLM will also make a decision whether or not to amend its existing Cassia RMP which will allow for the granting of the ROW if so decided. Both decisions will be outlined in a Record of Decision, based on the outcome of the EIS.

U.S. Fish & Wildlife Service (Cooperating Agency)

The USFWS will issue a Biological Opinion based on a Biological Assessment (BA) of impacts to threatened and endangered species. The BA will address potential impacts of the project to bald eagles and gray wolves. The findings of the Biological Opinion will be included in the BLM Record of Decision.

Bonneville Power Administration (Cooperating Agency)

The BPA will make a decision whether or not to offer contract terms for the interconnection of the Proposed Project to the Federal Columbia River Transmission System (FCRTS). BPA has adopted an Open Access Transmission Tariff for the FCRTS, consistent with the Federal Energy Regulatory

Commission's *pro forma* open access tariff. Under BPA's tariff, BPA offers transmission interconnection to the FCRTS to all eligible customers on a first-come, first-served basis.

Idaho Department of Lands (Cooperating Agency)

Idaho Department of Lands will make a decision whether or not to grant a ROW for a portion of a transmission line that would cross state land.

Bureau of Reclamation (Cooperating Agency)

The BOR is deferring the ROW decision to the BLM for a small portion of the transmission interconnection line that will potentially cross lands managed by the BOR.

Cassia County Commissioners (Cooperating Agency)

The Cassia County Commissioners and Planning and Zoning Committee will approve a conditional use permit for certain components of the project.

PROPOSED ACTION AND ALTERNATIVES

This section identifies and describes the Proposed Action, the no action alternative and the action alternatives associated with the Proposed Project. The DEIS analyzed four alternatives in detail:

- Alternative A: The No Action Alternative
- Alternative B: Applicant's Proposed Action
- Alternative C: Modified Proposed Action with fewer but larger output wind turbines, alternative access, alternative transmission line locations and alternative turbine types
- Alternative D: Modification of Alternative C with a reduced number of wind turbines

A brief description of these alternatives and project features common to all action alternatives is provided below. If selected, Alternative B, C and D would require amending the Cassia RMP. Alternative A would not require an amendment to the Cassia RMP. In addition, Alternatives E and F that were not carried forward are discussed.

Alternative A (No Action)

Alternative A, No Action, is the baseline against which the action alternatives can be compared. This baseline also allows for the disclosure of the effects of not developing the proposed wind power project and its associated infrastructure. Under Alternative A, the ROW grant for the construction, operation and maintenance of a wind-powered electrical generation facility would not be granted and the RMP would not be amended by the BLM. This alternative would maintain current management practices for resources and allow for the continuation of resources uses at levels identified in the Cassia RMP.

Alternative B (Applicant's Proposed Action)

This alternative is presented as proposed in the ROW application made by the Applicant to the BLM. The Applicant has attempted to reduce potential project impacts through project design, application of BLM Best Management Practices (BMP) and consideration of input from its own public scoping efforts in developing its Proposed Action.

Under Alternative B, the Applicant is proposing to construct a wind-powered electric generation facility along the approximately 16-mile ridgeline of Cotterel Mountain. As proposed, the Project would consist of approximately 130, 1.5 megawatts (MW) wind turbines that would be sited along the west, central, and east ridges of Cotterel Mountain. The west string would be 0.8-miles in length and located along the short side-ridge west of the main Cotterel Mountain ridgeline. The center string of wind turbines would be about 10.9 miles in length and placed along the spine of the central ridgeline of the mountain. The east string of wind turbines would be 4.1 miles in length and located along the east ridgeline that extends south of the Cotterel Mountain summit. In addition to the 130 wind turbines, two 138 kilovolt (kV) overhead transmission interconnect lines would connect the project to the transmission grid emanating from two separate substations. The exact location of proposed wind turbines, roads, power lines, or other facility-related construction would be sited based on environmental, engineering, meteorological, and permit requirements.

Each turbine would be 210 feet in height to the center of the hub. Each of the three blades would be 115 feet in length, with an over-all diameter of 230 feet. Maximum blade height would be 325 feet above the surrounding landscape. There would be two substations. The substations would be located at the north and central portions of the middle turbine string. The substations would connect to the existing BPA and Raft River 138 kV transmission lines via two newly constructed transmission interconnect lines. The transmission interconnect line ROW would cross lands managed by BLM, Idaho State, as well as those under private ownership.

Approximately 25 miles of all-weather gravel roads would be needed to access and maintain the Proposed Project. This would require about 4.5 miles of road reconstruction, and about 22 miles of new road construction. Total estimated cut volume for road construction would be approximately 2,660,000 cubic yards. The estimated fill volume would be approximately 2,500,000 cubic yards. The total construction impact area for all project features would be about 365 acres. Following the reclamation of construction impact areas, the final Proposed Project would occupy an area of about 203 acres. Other physical components of the wind plant are described in Comparison of Project Features of Alternatives B, C and D.

Alternative C (Agency's Preferred Alternative)

Alternative C is a modified alternative to the Proposed Action (Alternative B) with fewer but larger output wind turbines, alternative access, and alternative transmission line locations. **AT THIS TIME, ALTERNATIVE C IS THE AGENCY'S PREFERRED ALTERNATIVE.** Under Alternative C, the IWETT has identified additional BMPs that are included to specifically address

wildlife issues and concerns related to sage-grouse, raptors, bats and requirements under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. Alternative C also incorporates a compensatory/off-site mitigation fund that provides the opportunity for effectiveness monitoring and adaptive management, the extent of which would be determined by a technical steering committee.

Under Alternative C, the Applicant would construct a wind-powered electric generation facility along 14.5 miles of ridgeline of the Cotterel Mountain. If built as proposed, the project would consist of a linear alignment of approximately 81-98 wind turbines, based on the size of turbine selected, sited along the central and east ridges of Cotterel Mountain. The central ridge would have approximately 64 wind turbines and the east ridge would have approximately 17 turbines. In addition to the wind turbines, one 138 kV overhead transmission interconnect line would connect the project to the transmission grid from a single substation. The exact location of proposed wind turbines, roads, transmission interconnect lines, or other facility-related construction would be sited based on detailed engineering to address site specific environmental, meteorological, or permit conditions including BMPs.

Under Alternative C, two sizes of wind turbines would be considered. The smaller of the two would have a 77-meter (230 foot) rotor diameter and would have a generation capacity of 1.5 MW. It would sit on a 65-meter (210 foot) tower and the rotor would consist of three blades, 115 feet in length. Maximum blade height would be 325 feet above the ground. The larger turbine would have a 100-meter (328 foot) rotor diameter and would have a generation capacity of between two and three MW. It would sit on an 80-meter (262 foot) tower and the rotor would consist of three blades, 164 feet in length. Maximum blade height would be 426 feet above the ground.

A single substation would be located approximately midway along the central turbine string. Alternative C would have a single overhead 138 kV transmission interconnect line. The transmission interconnect line would extend northeast from the substation down to the Raft River Valley where it would cross over, but not connect to the existing Raft River transmission line. From here the transmission interconnect line would extend to the north approximately 19.7 miles in a new ROW adjacent to the existing ROW for the Raft River transmission line. It would cross over the Snake River west of the Minidoka Dam. The line would then travel in a northeast direction where it would connect the project to the existing Idaho Power transmission lines located north of the Minidoka Dam. The transmission interconnect line ROW would cross lands managed by BLM, BOR, Idaho State, USFWS as well as those under private ownership.

The Proposed Project would require the reconstruction of about 3.2 miles of road and the construction of about 19.5 miles of new roads. Total estimated cut volume for road construction would be approximately 2,200,000 cubic yards. The estimated fill volume would be approximately 2,425,000 cubic yards. Under Alternative C, the total construction impact area for all project features would be about 352 acres. Following the reclamation of construction impact areas, the final Proposed Project would occupy an area of about 203 acres.

Public access on the ridgeline would consist of a combination of new project roads and existing and newly constructed primitive roads. Although public use of project roads along the ridgeline would be restricted through a series of gates, signage and natural rock barriers, there would not be a loss of public access to existing use areas. Public access would be maintained by linking the existing primitive road system through construction of new primitive roads to allow existing uses of the area, including hunting, to continue.

Effectiveness Monitoring, Adaptive Management, Compensatory (Off-Site) Mitigation, and Technical Steering Committee Common to Alternatives C and D

Effectiveness Monitoring

Under Alternatives C and D, effectiveness monitoring is included and is intended to determine the effectiveness of the project design, construction and BMPs in protecting wildlife beyond the requirements of Alternative B. This monitoring would be funded by the Applicant through a compensatory mitigation fund (described below). It includes, but is not limited to, continuing the collection of pre-construction baseline data for use in comparative analysis, off-site sage-grouse lek studies, continuing sage-grouse telemetry studies, sage-grouse nesting studies, sage-grouse winter use studies, and raptor nest surveys.

Wind power projects have effects on wildlife, particularly avian species and bats, depending upon the location, geography, and natural setting of the project. Effectiveness monitoring of the project (5 years or greater) is key in understanding the relationship between the project design, siting of the towers, operation of the facility and effects on wildlife. These effects can occur in a variety of ways but, based on data collected at other operating wind projects, are chiefly associated with bird collisions with the large blades that drive each of the wind turbines (referred to as the rotor swept area of each turbine). Additional long-term monitoring may also be necessary to determine how the characteristics of the project and its turbines affect the behavior and migration of birds and bats and to determine if there are certain turbines along the string that are contributing to bird and bat mortality that would trigger the need to implement management actions to reduce these effects.

Adaptive Management

Adaptive management is based upon a concept of science that understands ecosystems are complex and inherently unpredictable over time. It approaches the uncertainties of ecosystem responses with attempts to structure management actions using a systematic method from which over time learning is a critical tool. Learning and adapting is based on a process of long term monitoring of impacts to wildlife from this project. The Applicant and the BLM recognize that the findings of long-term effectiveness monitoring could indicate the need for modification of operations and adaptive management. The BLM and the Applicant will work cooperatively with the USFWS and the IDFG to develop appropriate actions or mitigation measures designed to address issues or concerns identified as a result of monitoring. Adaptive management tools that are available to the Applicant and BLM include, but are not limited to: Timing stipulations during construction, operational changes of

turbines, siting considerations, lighting scenarios, and color schemes. These are, for the most part, addressed in Appendix D.

Off-site Mitigation

BLM Washington Office Policy Guidance Instruction Memorandum No. 2005-069 states that off-site mitigation can be funded by voluntary contributions from the Applicant into a compensatory mitigation fund held by the BLM (Appendix E). This would be done by cooperative agreement between the Applicant and the BLM. This cooperative agreement would prescribe the level of contribution and the management and use of the fund. Accordingly, the Applicant has volunteered to contribute to a compensatory mitigation fund pursuant to the above-mentioned guidance. The Applicant has executed a letter of commitment to enter into a cooperative agreement in accordance with the foregoing (Appendix F). The Applicant intends the annual contribution to be in an amount equal to approximately one-half of one percent of the gross revenues received from the Cotterel Wind Power Project electricity sales. For a 200 MW project name plate, that contribution is expected to average approximately $150,000 per year at today's forecasted production and electricity rates.

An extensive framework of off-site mitigation practices was also recommended by the IWETT to address impacts to wildlife, should they occur as a result of the Proposed Project. These practices would also be funded by the compensatory mitigation fund (described above). The kinds of off-site mitigation practices recommended include, but are not limited to: purchase of key habitats; acquisition of conservation easements on key habitats; or, restoration, treatment or conversion of existing federally managed off-site habitats. Any off-site activities proposed by the steering committee would have impacts associated, which would be separate from the impacts identified for this Proposed Project and analyzed in this document. They would be analyzed in separate NEPA documents on a case-by-case basis as needed.

Technical Steering Committee

It was further recommended by the IWETT that a technical steering committee be formed to advise on the design of mitigation measures and monitoring covered by the compensatory mitigation fund. This committee would be responsible for recommending actions that would be funded by the compensatory mitigation fund (i.e. implementation of monitoring (over and above that which is required), recommending commensurate off-site mitigation, and recommending adaptive management strategies). The intent is to ensure interagency involvement in mitigation and monitoring activities with particular emphasis on addressing the requirements of the Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act and sage-grouse conservation. The committee will also examine ongoing research and scientific studies attempting to understand the behavior and relationship between wildlife and wind energy developments. The technical steering committee would be an expansion of the IWETT and would consist of interagency wildlife and other resource professionals and the Applicant, with final decision authority resting with the BLM Field Office Manager. This committee would be formed and chartered prior to any construction of the Proposed Project.

Alternative D

Alternative D is a modification of Alternative C with a reduced number of wind turbines. The IWETT has identified additional BMPs that are included in this alternative to specifically address wildlife issues and concerns related to sage-grouse, raptors, bats and requirements under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. Alternative D also incorporates a compensatory/off-site mitigation fund that provides opportunities for effectiveness monitoring and adaptive management the extent of which would be determined by a technical steering committee.

The premise of Alternative D is elimination of turbines from a portion of the sage-grouse habitat (leking, nesting, brood rearing, and winter range) while still maintaining an economically viable project. Because of the infrastructure costs involved with the project (i.e. turbines, roads, powerlines, substation), the Applicant has determined that 66 turbines in the 1.5 + MW size range would be necessary for an economically viable project. Concentrating the turbines along the center ridge of Cotterel Mountain would be the best way to obtain this number of turbines while affecting the fewest resources. In addition, it would concentrate the project features on the central ridge, leaving the east ridge undeveloped.

Alternative D would use the same size range and types of wind turbines as those proposed under Alternative C. Under Alternative D, a range of 66-82 turbines would range in generation capacity from 1.5 to 3.0 MW. Tower height for the turbines would range from 210 feet to 262 feet, with maximum blade height ranging from 325 to 426 feet above the ground. Rotor diameters would range from 230 feet to 328 feet (77-100 meters).

Wind turbines, substations, and transmission interconnect lines would be the same for Alternative D as described under Alternative C.

Under Alternative D, the Proposed Project would require the reconstruction of about 2.9 miles of road and the construction of about 14.5 miles of new roads. Total estimated cut volume for road construction would be approximately 2,080,000 cubic yards. The estimated fill volume would be approximately 2,275,000 cubic yards. The total construction impact area would be about 282 acres. Following the reclamation of construction impact areas, the final Proposed Project would occupy an area of about 160 acres.

Public access under Alternative D would be similar to Alternative C along the central ridgeline and turbine string. However, under Alternative D there would be no road construction or turbines sited along Cotterel Mountain's east ridge. The lower portion of the existing Cotterel Mountain summit road would have minor modifications made to improve safety. The existing Cotterel Mountain summit access road and primitive jeep trails along the east ridgeline would remain unchanged and would continue to be open to the public.

Required on-site monitoring, effectiveness monitoring, adaptive management and compensatory (off-site) mitigation would be the same for Alternative D as described under Alternative C.

Alternatives Considered But Not Analyzed In Detail

Alternative E

Alternative E was developed by the identification of issues through public scoping, agency scoping, the IWETT, government-to-government consultation, and interdisciplinary resource recommendations and is basically a modification of Alternative D. It was proposed as a possible method of further minimizing potential impacts to sage-grouse habitat and habitat use while maintaining an economically viable wind energy development. Alternative E, while avoiding the most direct suspected impacts to sage-grouse lek use and associated nesting at several key locations on the mountain, would effectively reduce the length of the turbine string to approximately 8.4 miles and reduce the number of turbines that could be constructed to a range of 40-49. This is substantially less than the minimum number of wind turbines disclosed by the Applicant as being economically viable to construct (66 turbines), operate and maintain at the Cotterel Mountain site.

The Applicant's analysis and disclosure of a minimum size project is based on the cost of infrastructure (i.e. roads, substation, power transmission, underground cabling, etc.), the cost of construction on a remote, isolated mountaintop, the cost of monitoring and mitigation, and the cost and time required for permitting on public land. It is further based on the time required to amortize the capital investment of a project. Alternative E would have essentially the same infrastructure costs as Alternative D with approximately 60 percent of the production potential. Accordingly, the Applicant states that it is not possible to recoup costs in a reasonable amount of time or achieve the rate of return necessary for such a large investment, nor would it be possible to obtain financing. While Alternative E is technically feasible and could be constructed, it does not meet the Council on Environmental Quality (CEQ) test of a reasonable alternative since it is not economically viable. Therefore, Alternative E does not meet the purpose and need stated in this document. For these reasons, Alternative E is not carried forward or analyzed in detail. It should be noted that in CEQ's definition of "reasonable," technical and economic are linked. If a proposed project does not meet one or the other, it is not feasible to construct and therefore, not a reasonable alternative.

The casual observer may notice a number of small wind projects cropping up around southern Idaho. This begs the question, why are 40 turbines not economically feasible on Cotterel Mountain while one, three or seven turbines seem to be a viable project in other areas? As stated above, the answer is closely tied to infrastructure costs, construction costs, monitoring and mitigation costs, the high costs and lengthy time requirements of siting on public land vs. the low cost and short time frames involved with siting on private land, and the capital investment amortization time and costs. It should be noted that, with the exception of time to amortize the capital investments, these smaller projects located on private land do not experience these other costs.

Alternative F

Alternative F was developed by the identification of issues through public scoping, agency scoping, the IWETT, government-to-government consultation, and interdisciplinary resource recommendations. This alternative further distances the wind energy facilities from sage-grouse use

areas. The premise of Alternative F is to site the wind turbines based on the best available science, combined with professional judgment, for the protection of sage-grouse and their habitat. Studies regarding the lifecycle of sage-grouse have shown that nesting and brood rearing generally take place within a 1.8-mile radius of active leks. There is also some scientific information on lesser prairie chickens to suggest that they may avoid tall structures. Therefore, it has been suggested by some that placement of a wind power project within that 1.8 mile radius of leks may have an adverse affect on the lifecycle activities of sage-grouse.

Application of a 1.8-mile no development zone around known, active sage-grouse leks would limit the siting of the wind generation facility to the 3.6-mile section of the central Cotterel Mountain ridgeline and reduce the number of constructible turbines to approximately 20. This requirement would render Alternative F not economically feasible, as a commercial wind generation facility and not in accordance with the purpose and need stated in this document. Therefore, Alternative F has been considered but is not being analyzed in detail.

Project Features Common to All Action Alternatives

Major components of the Proposed Project and common to the other action alternatives identified include:

- Multiple wind turbines and turbine foundations
- Multiple pad mounted transformers
- Buried power collection lines and communication cables
- Several miles of project access roads including existing, reconstructed, and newly constructed road beds
- Meteorological towers on foundations
- One to two substations
- Newly constructed 138 kV overhead power transmission interconnect lines
- Operations and maintenance building (O&M Building); and
- Portable on-site cement batch plant and rock crusher

The table below provides a comparison of the alternatives by Proposed Project features.

Comparison of Project Features of Alternatives B, C and D.

Project Features	Alt. B	Alt. C	Alt. D
Project nameplate (in MW)	195	147-243	123-198
Number of turbines	130	81-98	66-82
Turbine Nameplate (in MW)	1.5 MW	1.5-3 MW	1.5-3 MW
Turbine hub height (meters)	64	80	80
Turbine diameter (in meters)	70	77-100	77-100
Total length of turbine string (in miles)	15.8	14.5	11.6
Project roads total (in miles)	26.6	24.4	19.3
Existing (To be used without modification)	0	1.7	1.7
Reconstructed	4.5	3.2	2.9
New	22.1	19.5	14.7
Electrical trenching (outside of roads, in miles)	5	3-4	2.8
New transmission Interconnect lines (in miles)	9	19.7	19.7
Substations	2	1	1
Meteorological towers	3	3	3
Maintenance and operation building	1	1	1
Temporary ground disturbance (in acres)	365	350	280
Permanent ground disturbance (in acres)	203	203	158
Construction features			
Earth work Cut (in cubic yards)	2,663,496	2,203,176	2,079,286
Fill	2,506,995	2,423,935	2,275,735
Difference	+156,501	-220,759	-196,449
Truck trips to build project roads (road base only)	12,625	10,885	8,500
Truck trips to build project (turbines, substations, other)	2,050	1,850	1,250
Total truck trips	14,675	12,735	9,750
Number of batch plants	1	1	1
Mitigation			
Wildlife fatality monitoring	X	X	X
BLM BMPs	X	X	X
Compensatory/off-site mitigation		X	X
Public access available		X	X

AMENDING THE EXISTING CASSIA RESOURCE MANAGEMENT PLAN

The Proposed Action and the action alternatives are not consistent with the existing Cassia RMP. When the Cassia RMP was completed, the development of wind energy was not considered as a potential use on Cotterel Mountain and the Cassia RMP contained no provisions for the granting of a

ROW for wind energy development. Therefore, if an action alternative is selected, an amendment to the Cassia RMP must be made as per regulations found at 43 CFR 1601.

Included in this DEIS is a draft plan amendment. The BLM published its intent to amend the Cassia RMP in the Federal Register in December 2002. The draft plan amendment is presented in Chapter 2, Proposed Action and Alternatives.

AFFECTED ENVIRONMENT/EXISTING CONDITION

The purpose of this section is to describe the existing environment/existing condition of the Cotterel Mountain area including conditions and trends that could be affected by the alternatives described above.

The Cotterel Mountain range is an area that experiences a range of precipitation of 12 to 25 inches of rain per year depending upon elevation. The wind blows from west to east and winter snowfall is blown clear of certain areas of the mountain while forming deep snowdrifts in other areas.

The geology of the Cotterel Mountain is described as a long, low ridge with a relatively steep face or escarpment on the east side and a long, gentle slope on the west side. The Proposed Project area generally consists of Pliocene and Upper Miocene volcanic rocks, rhyolite flows, tuffs, and ignimbrites.

Soils in the Proposed Project area are located at high elevation, have low water-carrying capacity, have the potential for wind and water erosion, and have minimal to moderate productivity capabilities as rangeland.

The Cotterel Mountain ridgeline divides the Raft River watershed on the east from the Lake Walcott watershed on the west. There are no designated major streams within the Proposed Project area. There are 14 springs, three spring developments, and one well within the Proposed Project boundary.

The relatively remote Proposed Project area is generally quiet and has no industrial noise sources. Existing noise in the Proposed Project area vicinity is attributable to: recreational users such as off-highway vehicles (OHV) and snowmobile riders; occasional low flying aircraft; agricultural equipment; and traffic on area roads.

Big game species include mule deer and mountain lions. Bighorn sheep occur approximately 15 miles south on nearby Jim Sage Mountain and have occasionally wandered on to Cotterel Mountain. The IDFG maps both mule deer and bighorn sheep winter range within the Proposed Project area.

Cotterel Mountain supports numerous species of small mammals. Five species of amphibians and reptiles have been documented in the Proposed Project area or its vicinity. Bats likely use Cotterel Mountain on a year-round basis. Three species of bats have been documented in the vicinity of the Proposed Project area.

Large expanses of big and low sagebrush, juniper, grasslands and mountain mahogany are found within the Proposed Project area. These vegetation types provide potential habitat for a number of bird species, including sage-grouse, Brewer's sparrow, grasshopper sparrow, loggerhead shrike, pinyon jay, plumbeus vireo, sage sparrow, and sage thrasher. In addition, the abundance of open cliffs, strong updrafts, and the close proximity of agricultural lands make this area prime habitat for raptor species including ferruginous hawks, peregrine falcon, prairie falcon, golden eagle and Swainson's hawk. Avian species surveys within the Proposed Project area documented 84 species of birds. Of these, 12 species of falcons, hawks, or eagles were observed. Three species of upland game bird were observed including the greater sage-grouse. In addition to the wide diversity of bird species found during the surveys, there are specialized topographical features that provide breeding, nesting and wintering habitats for many avian species that are not widely available in the vicinity of the Proposed Project area.

There is one known threatened and endangered species (Bald eagle) and potential habitat for another (gray wolf). Approximately 40 BLM Sensitive plant and animal species are known to occur or are suspected to occur within the project area and its vicinity.

The Proposed Project area is located adjacent to the Raft River Valley, which lies immediately east of Cotterel Mountain and is situated near a historically important crossroads of the Oregon Trail. The "Parting of the Ways" or "Separation of the Trails," located on the west bank of the Raft River, was the junction where travelers had to decide whether to head south toward California or proceed west along the Snake River toward the Oregon Country.

The cultural resources inventory and evaluation activities resulted in the identification of 21 archaeological sites and 61 isolated finds, in addition to five previously recorded sites. The BLM has formally initiated consultation with the sovereign nations of the Shoshone-Piaute and the Shoshone-Bannock in the manner as requested by them. Consulted parties expressed knowledge of past use of the Cotterel Mountain area describing general use of the ridge as a transportation corridor.

The Proposed Project would be located in Cassia County, Idaho. Cassia County is closely linked economically with Minidoka County to the north. The two-county area is called the Mini-Cassia area. The Mini-Cassia economy was built around agricultural industries, such as livestock (beef and dairy cattle, sheep) and crop production (sugar beets, grains, potatoes, alfalfa, and beans). Today, the Mini-Cassia area economy continues to be centered on agricultural industries such as food processing. Both counties have higher average unemployment rates compared to other southern Idaho counties, in part due to seasonal layoffs typical of the food processing industry. The area has experienced business closures and layoffs in recent years.

Major land uses include livestock grazing, wildlife habitat, recreation, utility distribution, and communication facilities locations. Management goals for the Proposed Project area include expanding dispersed recreation opportunities, providing for livestock grazing, and transferring certain lands from federal ownership. Prominent land uses around the Proposed Project area include: rural

community commercial use that is zoned for the cities of Malta and Albion; commercial recreational use at the Pomerelle Mountain Resort; and agricultural uses such as farming, grazing, and confined animal operations.

A primitive road extends along the Cotterel Mountain ridge top providing access to the entire mountain. Public access to the top of the mountain is available from the north, southwest and southeast. Several feeder roads and trails provide additional access down lateral ridges and drainages, but large areas of Cotterel Mountain remain roadless.

The Pomerell Ski Area is located about nine miles west of the Proposed Project area and provides winter recreation in the form of skiing and snowmobiling. The City of Rocks National Reserve, a popular camping, hiking, rock climbing, and historical area is located about 24 miles southwest of the Proposed Project area. The recreational uses of Cotterel Mountain include hunting, OHV use, picnicking, hiking, and some dispersed camping. The public lands associated with Cotterel Mountain are mandated by the Cassia RMP to provide for multiple uses, including a diverse choice of recreation opportunities.

There are two grazing allotments located within the Proposed Project area, North Cotterel and South Cotterel. The North and South Cotterel allotments have an average stocking rate of between six to seven acres per Animal Unit Month (AUM). Within the Proposed Project area boundary, there are approximately 1,700 AUMs.

ENVIRONMENTAL CONSEQUENCES

The environmental consequences of the Proposed Action and alternatives to the Proposed Action are summarized and compared in the table below. A complete description and disclosure of the impacts are found in Chapter 4, Environmental Consequences.

Summary Comparison of Resource Impacts.

Resource Issue	Alternatives			
	A	**B**	**C**	**D**
PHYSICAL				
Air Quality	No impact	Criteria pollutants and greenhouse gases would temporarily be emitted during construction of the Proposed Project.	Impacts to climate or air quality would be similar to those described under Alternative B; however, the temporary affects would be slightly less due to less construction.	Impacts to climate or air quality for Alterative D would be similar those described under Alternatives B and C; however, the temporary affects to air quality would be the least under Alternative D.
Geologic Hazards	There would be no impacts related to geology.	Shallow blasting to set wind turbine foundations and for road construction up to 203 acres disturbed.	Shallow blasting to set wind turbine foundations and for road construction up to 203 acres disturbed.	Shallow blasting to set wind turbine foundations and for road construction up to 158 acres disturbed.
Paleontological Resources	No impacts	No impacts	No impacts	No impacts
Soils	There would be no impacts related to soils.	Up to 368 acres would be initially disturbed. 165 acres would be reclaimed. 203 acres of permanent impacts to soils.	Up to 350 acres would be initially disturbed. Up to 147 acres would be reclaimed. 203 acres of permanent impacts to soils.	Up to 270 acres would be initially disturbed. Up to 112 acres would be reclaimed. 158 acres of permanent impacts to soils.
Water Resources				
Surface Water	There would be no impacts related to water resources.	The project would have a low potential to affect surface water resources.	Same as B	Same as B
Ground Water	There would be no impacts related to water resources	Blasting should not alter the flow of springs in the Proposed Project area.	Same as B	Same as B.

Summary Comparison of Resource Impacts.

Resource Issue	Alternatives			
	A	**B**	**C**	**D**
Noise				
Increased noise levels near residences and wildlife habitat	No effect. Existing background noise levels in the area would continue.	Noise from large trucks during construction would be temporary Operational impacts from noise to Sensitive receptors are not expected to occur.	Same as B.	Same as B – shorter in duration. Operational impacts would have less of a potential to affect recreational users.
BIOLOGICAL				
Vegetation				
Removal of vegetation	No change to the existing vegetation beyond the levels identified in the Cassia RMP.	Up to 368 acres of vegetation would be directly affected by construction of all project features. Up to 165 acres reclaimed. 203 acres of permanent impact to vegetation.	Up to 350 acres of vegetation would be directly affected by project construction of all project features. Up to 147 acres reclaimed. 203 acres of permanent impact to vegetation.	Up to 282 acres of vegetation would be directly affected by project construction of all project features. Up to 123 acres reclaimed. 158 acres of permanent impact to vegetation.
Noxious weeds	No change to the existing vegetation beyond the levels identified in the Cassia RMP	Disturbance of vegetation could lead to the establishment and spread of noxious weeds, which would increase direct competition for limited resources (nutrients, water, space, etc.) with native or desired vegetation. Indirectly, these species could augment the amount and continuity of fuels, which could lead to increased fire return intervals.	Same as B.	Same as B

Summary Comparison of Resource Impacts.

Resource Issue	Alternatives			
	A	**B**	**C**	**D**
Wildlife				
Loss of big game winter range	There would be no adverse impacts.	Winter range would be permanently eliminated on up to 105 acres of mule deer habitat and 194 acres of bighorn sheep habitat. Mountain lions could be initially displaced by construction activities, but would likely habituate to project features over time.	Winter range would be permanently eliminated on up to 62 acres of mule deer habitat and 162 acres of bighorn sheep habitat. Impacts to mountain lions would be the same as Alternative B.	Winter range would be permanently eliminated on up to 58 acres of mule deer habitat and 115 acres of bighorn sheep habitat. Impacts to mountain lions would be the same as Alternative B.
Big game displacement and/or stress	There would be no adverse impacts.	Displacement of big game from project construction and operation. Potential displacement impacts from increased human activity.	Same as B	Smaller project size would result reduced area of displacement and less areas of improved public access. Displacement would still occur but on a smaller scale.
General wildlife habitat	There would be no adverse impacts.	Wildlife could be negatively affected by increased traffic and human presence on Cotterel Mountain. Permanent loss of 203 acres of potential habitat.	Same as B	Permanent loss of 158 acres of potential habitat. Smaller project size would result in reduced area of displacement and less areas of improved public access.

Summary Comparison of Resource Impacts.

Resource Issue	Alternatives			
	A	**B**	**C**	**D**
Estimated annual avian and bat mortality due to collision with wind towers or power lines.	There would be no adverse impacts.	Raptors = 0-63 mortalities All birds = 0-934 mortalities Bats = 0-667 mortalities Upper end mortality estimates are based on total avian numbers from point counts, mortality at other operating wind projects and total rotor swept area with an operating capacity factor of 35% applied. This estimate assumes that all birds flying within the rotor swept area would be killed (worst case scenario).	Raptors = 0-81 mortalities All birds = 0-1188 mortalities Bats = 0-848 mortalities Assumes larger rotor swept area. Same as B	Raptors = 0-66 mortalities All birds = 0-968 mortalities Bats = 0-691 mortalities Assumes larger rotor swept area. Same as B
Nesting raptors	There would be no adverse impacts.	Wind turbines would be sited greater than ¼ mile from the three golden eagle nests. Blasting during nesting season could result in nest abandonment. Resident hunting raptors may avoid the vicinity of the turbines. Habitat lost to construction would result reduced prey base.	Same as Alternative B. Same as Alternative B.	Same as Alternative B. Same as Alternative B.
Loss of sage-grouse winter range	Existing situation expected to continue	Direct loss of 68 acres. Displacement from up to 6,435 acres	Direct loss of 48 acres. Displacement from up to 5,716 acres	Direct loss of 34 acres. Displacement from up to 4,585 acres.

Summary Comparison of Resource Impacts.

Resource Issue	Alternatives			
	A	**B**	**C**	**D**
Loss of sage-grouse nesting habitat	Existing situation expected to continue	Direct loss of 33 acres. Displacement from up to 5,605 acres.	Direct loss of 28 acres. Displacement from up to 4,890 acres	Direct loss of 15 acres. Displacement from up to 3,194 acres
Displacement of sage-grouse from lek sites	Existing situation expected to continue	Direct loss of 84 acres. Displacement from up to 3,395 acres.	Direct loss of 77 acres. Displacement from up to 3,345 acres.	Direct loss of 52 acres. Displacement from up to 3,255 acres.
Displacement of bats from hibernation sites	Existing situation expected to continue.	Noise and percussion from blasting, drilling, digging, and movement of large vehicles could displace roosting, breeding, or hibernating bat species.	Same as Alternative B.	The smaller project would require less blasting resulting in a reduced potential for displacement of roosting, breeding, or hibernating bat species.
Threatened and Endangered Species				
Bald Eagle	There would be no adverse impacts.	Small potential for direct mortality or injury from electrocution, collisions with transmission lines, or turbine blades.	Same as Alternative B	Same as Alternative B
Gray Wolf	Gray wolves are not known to occur on Cotterel Mountain; therefore, there would be no adverse impacts.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.

Summary Comparison of Resource Impacts.

Resource Issue	Alternatives			
	A	**B**	**C**	**D**
BLM Sensitive Species	Existing situation expected to continue.	Cliff chipmunk populations would be affected during construction. These areas would likely be avoided or abandoned, but once construction is complete and disturbance levels decline, cliff chipmunks would be expected to reoccupy habitats near the facility. Nesting and non-breeding golden eagles could be adversely affected not only by construction disturbance, but also from potential collisions with turbines.	The impacts of Alternative C to special status species would be similar to those expected to occur under Alternative B, with slightly smaller areas of permanent and temporary impacts from project construction and fewer turbines.	The impacts of Alternative D to special status species would be similar to those expected to occur under Alternative B and C, with slightly smaller areas of permanent and temporary impacts from project construction.
CULTURAL RESOURCES				
Prehistoric Resources	There would be no affect.	No Affect.	Same as B	Same as B
American Indian Concerns	There would be no affect.	No concerns have been identified.	Same as B	Same as B

Summary Comparison of Resource Impacts.

Resource Issue	Alternatives			
	A	**B**	**C**	**D**
Historical Resources	There would be no affect.	Alternative B would have no impact to sites CM-S-5, CM-S-16, CM-S-20, CM-S-22, or 10CA629 since each of these is located outside of the area of potential effects and would be avoided. Proposed Project impacts to the remaining 21 sites, and to any sites discovered during additional survey of the transmission lines and access roads, would range from no impact to high impact depending on the degree of loss of integrity to the site and on the significance of the site.	Impacts for Alternative C are similar to impacts for Alternative B with the exception that the Proposed Project would have no impact to site CM-S-17 in Alternative C. This site would be avoided.	Impacts for Alternative D are similar to impacts for Alternative C with the exception that the Proposed Project would have no impact to sites CM-S-21, CM-S-22, CM-S-18, and CM-S-1 in Alternative D. Alternative D would have the fewest impacts to historical and cultural resources.
SOCIOECONOMIC				
Regional Economy and Community	There would be no impacts or changes to regional or local socioeconomic conditions. The Proposed Project area would continue to function as a dispersed recreation area and would continue to provide seasonal grazing opportunities for livestock. The Mini-Cassia area would not experience the tax revenue benefits that would be associated with the project.	Impact due to temporary direct and secondary increase in jobs, income, and spending. Construction cost of $200 million. Local and regional labor force could fill positions, and local lodging could accommodate workers. Increase in population would be small.	Impacts would be similar to Alternative B.	Temporary direct and secondary increase in jobs, income and spending. Construction cost of approximately $100 million. One-time influx of sales tax revenue, less than under Alternative B.

Summary Comparison of Resource Impacts.

Resource Issue	Alternatives			
	A	**B**	**C**	**D**
Regional Economy and Community (continued)		No effect on local businesses. No impact on tourism. Impact of one-time influx of sales tax revenue of approximately $500,000. Permanent increase in jobs, income, and spending. Annual operation cost would be $4.5 million. No relocations, displacements, substantial growth of concentration of population, and related demand for public services would occur. Additional property tax revenue to the school district.		Annual operation cost would be $2.3 million. Permanent increase in jobs, income, and spending would be less than under Alternative B. Beneficial impact upon annual property tax revenues, similar in type but less than Alternative B. Beneficial impact of permanent increase in sales tax revenue, similar in type but less than under Alternative B. Impact to population and demand for public services would be less than under Alternative B.
Property Values	There would be no affect.	Impacts to property values are not likely.	Same as Alternative B.	Same as Alternative B.
Environmental Justice	There would be no affect.	No environmental justice impacts.	Same as Alternative B	Same as Alternative B

Summary Comparison of Resource Impacts.

Resource Issue	Alternatives			
	A	**B**	**C**	**D**
LAND USE				
Public Access	There would be no affect.	Public access to federal and state lands within the Proposed Project area would not be restricted, except during construction of the project for safety purposes. Following project construction, public access to federal and state lands would be improved with 24.5 miles of new or reconstructed roads.	Public access on the ridgeline would be altered from Alternative B to become a combination of new project roads and existing and newly constructed primitive roads. Public use of project roads would be restricted through a series of gates and natural rock barriers but would not result in a loss of access to traditional use areas. Primitive access would be maintained wherever possible by linking the existing primitive road system through construction of new primitive roads.	Same as Alternative C

Summary Comparison of Resource Impacts.

Resource Issue	Alternatives			
	A	**B**	**C**	**D**
Recreation	Based on the activities outlined in the Cassia RMP, no change to recreation opportunities or degree of typical use would be anticipated in the area, beyond some minor modifications to recreation facilities and trails. These modifications are expected to enhance the recreation spectrum in the Proposed Project area.	During construction of the Proposed Project, noise, dust, traffic, equipment use, and associated human activities would change the character of the area and result in a temporary loss of recreational opportunities. Wind turbines would be located within about 760 feet of the Coe Creek picnic site. Project could result in change of visitor/use or experience. Changes to recreation use would not alter the current recreational opportunities spectrum category (semiprimitive motorized) for Cotterel Mountain.	Construction impacts would be the Same as B. Wind turbines would be located within about ¼ mile (1,400 feet) of the Coe Creek picnic site. Visitors may be able to hear the turbines during times of turbine operation but less so than under Alternative B.	Construction impacts would be the Same as B. Wind turbines would be located within about ¼ mile (1,400 feet) of the Coe Creek picnic site. Overall smaller project would result in reduced impacts to recreational users.
Land Status	There would be no affect.	No affect to existing surface land ownership or mineral ownership	Same as B.	Same as B.
Rights-of-Ways	There would be no affect.	Future ROWs would not be affected by the Proposed Project. Approval would continue to be obtained from the BLM in accordance with the processes outlined in 43 CFR 2800 and the BLM Right -of-Way Handbook (H-2800-1). An amendment to the land use plan may be required.	Same as B.	Same as B.

Summary Comparison of Resource Impacts.

Resource Issue	Alternatives			
	A	**B**	**C**	**D**
Livestock Grazing	Based on the Cassia RMP no changes to grazing would be expected beyond some vegetation treatments or minor range improvement projects There would be no modification of the existing acres, AUM, range conditions, or improvements outside those identified in the Cassia RMP.	Temporary loss of up to 165 acres of rangeland vegetation. Permanent impacts to 203 acres of rangeland vegetation would result in a loss of livestock forage	Temporary loss of up to 147 acres of rangeland vegetation. Permanent impacts to 203 acres of rangeland vegetation would result in loss of livestock forage	Temporary loss of up to 112 acres of rangeland vegetation. Permanent impacts to 158 acres of rangeland vegetation would result in loss of livestock forage
VISUAL RESOURCES				
Visual Resources	There would be no affect.	Vehicle and heavy equipment traffic associated with project construction could results in short-term impacts. The operational phase of the project would have long-term impacts to surrounding view sheds and communities. Permanent impacts to visual resources would be greatest under this alternative.	Short-term impacts to visual resources would be similar to Alternative B, but with fewer trips needed during the construction phase. Long-term impacts would also be slightly less based on the reduced number of turbines.	Short-term impacts to visual resources would be the lowest under this alternative, and would require the fewest trips during the construction phase. Long-term impacts would also be lowest, based on the reduced number of turbines.
HAZARDOUS MATERIALS				
Hazardous Materials	There would be no affect.	During construction of Alternative B, BMP would be used to avoid spills, leaks, or dumping of hazardous substances.	Same as Alternative B.	Same as Alternative B

Summary Comparison of Resource Impacts.

Resource Issue	Alternatives			
	A	**B**	**C**	**D**
FIRE MANAGEMENT				
Fire and Fuels	Under the Alternative A, fire management's ability to suppress wildfire and manage surface fuels within the Proposed Project area would not be affected. Fire frequency and intensity would not be changed by Alternative A.	The risk of human caused ignitions would increase Suppression strategies would be limited by the presence of turbines and buried electrical cables Improved, wider roads would act as fire breaks and provide improved access and shorter ground response times. Towers would increase the lightning-attractivity of Cotterel Mountain resulting in a potential increase in lightning strikes. This may or may not affect the number of lightning caused ignitions.	Same as Alternative B	Impacts would be similar to B, but the risk of human caused ignitions would lower due to overall smaller project size. Suppression strategies would not be limited on east ridge of Cotterel Mountain.

CUMULATIVE IMPACTS

The CEQ regulations for implementing the NEPA require assessment of cumulative effects in the decision-making process for federal projects. Cumulative effects are defined 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 (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative effects are considered for each resource and disclosed in detail in the DEIS.

Cumulative effects in this analysis were determined by combining the effects of each alternative with past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other past, ongoing, or reasonably foreseeable future actions in this area and in the surrounding landscape. All resource impacts would be added to these actions to portray the cumulative picture or incremental contribution this Proposed Project would have on the environment. The following is a brief summary of cumulative effects:

Past and Historical Actions

Examples of past or historical actions that have contributed impacts to wildlife and other resources within the Cassia-Raft River Creeks and Marsh Creek sub-basins include:

- Construction of Interstate Highways 84 and 86
- Livestock grazing
- Drought and severe winters
- Expansion of residential development around small towns
- Agricultural development that removed shrub steppe habitat
- Wildfire and prescribed burning
- Construction of power lines
- Livestock water developments
- Mining
- Water channel alterations and removal of riparian vegetation
- Hunting

Existing Actions

Examples of existing and foreseeable actions within the Cassia-Raft River and Marsh Creek sub-basins that are either causing impacts to wildlife and other resources or could potentially cause such impacts include:

- Public access
- Livestock grazing
- Continued alteration of streams for human purposes
- Mining
- Rural development
- Wildfire and prescribed burning
- Alteration of shrub steppe habitats
- Water development
- Conversion of native vegetation to agricultural
- Fencing on private or public lands
- Construction of powerlines
- Drought and severe winters
- Disease
- Loss of shrub steppe habitats on private lands
- Hunting, poaching, and predation
- Herbicides
- Land exchanges
- Development of energy sources

Foreseeable Actions

Some examples of foreseeable actions that may contribute cumulatively to impacts of the Proposed Project include:

The Idaho Transportation Department is proposing to reconstruct and improve a portion of the City of Rocks Back County Byway between Elba and Almo, Idaho. This 17-mile stretch of road would be built in phases with completion of the Proposed Project occurring in 2007 or 2008. Completion of this road improvement project could likely result in an increase in the number of visitors to the City of Rocks area and an increase in motor vehicle speeds along this section of road.

The Idaho Department of Parks and Recreation is presently constructing a full-service RV campground on public land near the City of Rocks National Reserve located 20 miles south of the Proposed Project.

Other wind power projects are being proposed, recently constructed, or poised for construction in southern Idaho. A 10 MW project was completed early in 2005 at Fossil Gulch near Hagerman, Idaho located approximately 65 miles west of the Proposed Project. Ridgeline/Airtricity is developing three projects totaling 600 MW near Idaho Falls, Idaho and two projects totaling 400 MW near American Falls, Idaho located 125 miles northeast and 45 east of the proposed project respectively. Windland Inc. is developing a 200 MW project south of American Falls, Idaho approximately 45 miles east of the Proposed Project. RES has proposed a 200 MW project southwest of Twin Falls, Idaho located approximately 70 miles southwest of the Proposed Project. These wind projects, once constructed,

have the potential to result in cumulative impacts to wildlife and other resources when combined with the proposed Cotterel project and historical, present, and ongoing actions. These actions could result in cumulative impacts to wildlife and other resources.

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