

September 21, 2007 (modified update)

By Hand-delivery and E-mail Attachment (PDF)

Baca NWR Proposed Drilling Scoping Comments
Mike Blenden
U.S. Fish and Wildlife Service
9383 El Rancho Lane
Alamosa, CO 81101
Mike Blenden <mike.blenden@fws.gov>

RE: US Fish & Wildlife Service Environmental Assessment Scoping Process on Lexam Explorations' Proposal to Drill in the Baca National Wildlife Refuge

Dear Mr. Blenden,

We respectfully submit these public scoping comments on the proposed oil and gas drilling in the Baca National Wildlife Refuge on behalf of the following organizations:

- Crestone Baca Land Trust, Crestone, CO
- San Luis Valley Ecosystem Council, Alamosa, CO
- Natural Resources Defense Council, Boulder, CO
- Center for Native Ecosystems, Denver, CO
- Crestone Peak, Crestone, CO
- Mayor and Board of Trustees, Town of Crestone, Crestone, CO
- Crestone Sustainability Initiative, Crestone, CO
- Rocky Mountain Recreation Initiative, Nederland, CO
- Upper Arkansas South Platte Project, Florissant, CO

The Crestone Baca Land Trust (CBLT) is a community-supported non-profit educational and public interest group. The purpose of CBLT is to conserve the beauty of the natural landscapes, promote respectful relationships between people and nature and facilitate environmental integrity through community cooperation in northeastern San Luis Valley, Colorado. The Land Trust is dedicated to research and conservation of critical lands that have significant ecological, hydrological, cultural, and spiritual values.

San Luis Valley Ecosystem Council (SLVEC) is a public lands advocacy organization whose mission is to protect and restore—through research, education, and advocacy—the biological diversity, ecosystems, and natural resources of the Upper Rio Grande bioregion, balancing ecological values and human needs. SLVEC embraces and promotes the preservation of beauty, biodiversity and the health of the San Luis Valley and upper Rio Grande bioregion.

The SLVEC helps organize over 200 volunteers involved in different working groups throughout the San Luis Valley. Together, SLVEC and CBLT represent over 5,000 members and associates in the San Luis Valley.

The Natural Resources Defense Council (NRDC) is a non-profit environmental organization with over 650,000 members nationwide, including more than 14,000 in Colorado. It is headquartered in New York and has additional offices, including one in Boulder, Colorado. NRDC uses law, science, and the support of its members and activists to protect the planet's wildlife and wild places and to ensure a safe and healthy environment for all living things. NRDC has a special interest in protecting the public lands of the Rocky Mountain region from the impacts of oil and gas development.

In addition, the following individuals and organizations endorse and join in these comments.

Curtis L. Ward
Owner, Curt's Olde Country Store
Crestone, CO

Cheyenne Mendel
Owner, White Eagle Village
Moffat, CO

Bill Sitkin
Treasurer, Crestone Artisan's Gallery
Crestone, CO

Rodney Volhin
Owner, His & Hers Hair Salon
Crestone, CO

Safiya Belekian
Owner, Black Bear Video
Crestone, CO

Perry Bruget
Owner, Peculiar Per Restaurant
Crestone, CO

Carmin Teeple
Owner, Ragpicker Thrift Store
Crestone, CO

Lonnie Roth
Owner, Crestone Creative Trade Co.
Crestone, CO

Cal Michael Cali
Owner, Crestone Area Visitors
Agency

Crestone, CO

Kizzen Laki
Owner, The Crestone Eagle
Crestone, CO

Nick & Alicia Chambers
Owners, Chokecherry Farm
Crestone, CO

Angie LeRoy
Owner, Sangre de Cristo Trading Post
Moffat, CO

Wooddora-Rose Eisenhauer
Owner, Rose Realty
Crestone, CO

Elaine Blumenhein
Owner, Joyful Journey Hot Springs
Moffat, CO

Renee Hill
Owner, Blooms Flower Shop
Crestone, CO

David Hill
Owner, Sangre de Cristo Inn
Crestone, CO

Nathan Scarritt
Owner, Realitees
Crestone, CO

Peter May

Director, Kundalini Fire Management
Crestone, CO

Terry Smith
Owner, Century 21 - Valley Realty
Crestone, Alamosa & Monte Vista, CO

Sharon Ray
Owner, Mirage Trading Company
Moffat, CO

1. Summary of Comments

These public comments seek to ensure that the US Fish and Wildlife Service (USFWS) properly adheres to the National Environmental Policy Act (NEPA) mandates that require all federal agencies to fully consider the significant and cumulative impacts of the full scope of the actions involved in and related to issuing permits to allow drilling on the newly established Baca National Wildlife Refuge (NWR).

We request that a full scope of actions be developed for the Baca NWR through an Environmental Impact Statement (EIS), rather than an Environmental Assessment (EA) that includes consideration and documentation of the following:

- 1) How the proposed drilling complies with the Baca NWR's statutory mandates and other primary purposes, as well as its required contribution to the mission of the National Wildlife Refuge System;
- 2) Impacts of authorization of Lexam Explorations (Lexam) drilling activities before public use programs have been implemented;
- 3) A site-specific and programmatic analysis needed to account for the absence of a mandated Comprehensive Conservation Plan (CCP), not scheduled to begin until 2011, including but not limited to:
 - a. A full analysis of all existing data on the subsurface mineral estate generated from, among other things, the 25-square mile seismic study already conducted and how additional exploration activities will add to (if at all) any existing body of knowledge;
 - b. Impact scenarios that could result from project build-out should Lexam's wildcat venture identify sub-surface formations for development;
 - c. Consideration and disclosure of the regional, national and international implications to Rio Grande compact obligations, groundwater resources, Clean Water Act and relevant State and County Wetlands and Water Resource Protection laws and regulations;
 - d. Interagency cooperation between neighboring public land managers and USFWS including National Park Service, United States Forest Service and other federal, state, and local government agencies that are impacted directly or indirectly by this proposal;
 - e. Interim and final reclamation stipulations needed to protect the spectacular diverse wetlands and adjacent watersheds from further contamination by drilling impacts under Department of Interior programs;

- f. Full disclosure and operations plan to protect the environment and human health including potential contamination, directional diversion or temperature change in surface and ground waters, air quality, environmental noise, light and visual pollution;
- g. Comprehensive assessment of existing ecological and biological resources, including state and federally listed rare, threatened and endangered species, Potential Conservation Areas, wetland and riparian habitats, surface and subsurface water resources and analysis of potential direct, indirect and cumulative impacts of all drilling related activities, including the initial two wells and likely impacts from the possible build-out if Lexam is successful, on those resources;
- h. Comprehensive analysis that properly discloses the full scope of impacts, alternatives, and need for federal action to prevent the continuing, unnecessary, and undue degradation of all refuge resources within these federal lands;
- i. Analysis of likely impacts on and necessary stipulations required to assure the refuge can achieve its mandate to maintain the biological integrity, diversity and environmental health of all lands within the Baca NWR and thereby contribute to achieving those objectives on related adjacent land areas;
- j. Full and complete analysis of the potential direct, indirect, cumulative and short and long term effects on the exceptional Sense of Place qualities that define the surrounding area including cultural (paleo to contemporary), quietude, rural ambiance of solitude, esthetic, historical, ethical and socioeconomic.
- k. An analysis for Wilderness Designation suitability for any lands subject to drilling.
- l. Baseline monitoring data and trends analysis for all wildlife species potentially impacted by the proposed drilling operation.
- m. Any necessary impact fees and an analysis of any bond amounts necessary to cover costs for reclamation of the surface and any impacted water resources.

With regard to alternatives, we respectfully request that the agency provide full and fair evaluation of these and other reasonable alternative courses of action:

- 1. An alternative that fully examines off-refuge exploration and access to the sub-surface minerals;
- 2. An alternative that includes employment of direction drilling well away from sensitive wetland and riparian areas;

3. An alternative that relies exclusively on existing data on the subsurface mineral estate—including data generated from the 25-square mile seismic study already conducted -- and thereby forgoes any exploratory drilling;
4. An alternative that fully examines transfer of the subsurface mineral estate to the Federal Government or other entity in an effort to preserve the pristine character of the Baca. This would include acquisition of the subsurface mineral estate at full-market value based on a willing seller or condemnation pursuant to the requirements of the Fifth Amendment; and
5. An alternative that analyzes denial of any additional oil and gas exploration and/or development activities, until completion of the CCP.

We note at the outset that the agency has, to date, failed to identify a purpose and need for the Lexam Exploration's (Lexam) proposal. Thus, the agency has made it difficult for the public to get a sense of why this so-called "exploration" project continues to move forward--especially where, as here, extensive seismic data already exists. Among other things, the agency must analyze and disclose why this project has been 'fast-tracked' and cannot wait until completion of the CCP.

Additionally, the limited 30-day scoping period allowed for this EA did not provide sufficient time to fully prepare our comments. Nevertheless, we offer these comments as a preliminary summary of our grave concerns surrounding Lexam's proposal to conduct gas and oil explorations in the Baca NWR. We submit these comments in the spirit of supporting the USFWS in its mandate to protect the many invaluable biological, hydrological and cultural resources of the refuge to the maximum extent possible.

We believe that a determination of need for an Environmental Impact Statement (EIS) is the appropriate outcome of this process. Only a full EIS is sufficient in scope to address the many complex concerns that Lexam's proposal introduces. An EIS will allow full disclosure of all potential impacts, development of a complete range of alternatives and adequate public and agency participation as required under NEPA.

2. The Baca National Wildlife Refuge

Natural Values: Situated in the largest contained sub-alpine desert valley in the world, the Baca NWR is a place where spectacular waters, wetlands and ancient cultures converge. Nestled among the Sangre de Cristo Mountains to the east, the San Juan Mountains to the west and the Great Sand Dunes National Park to the south, the Baca NWR - spanning approximately 92,500 acres upon completion -- is one of the largest and newest additions to the National Wildlife Refuge System in the conterminous forty-eight states.

The Baca NWR was placed under Federal protection by the *Great Sand Dunes National Park and Preserve Act of 2000*. In approving this act, Congress determined that these lands offered:

“unique hydrological, biological, educational and recreational values deserving of preservation into perpetuity.” Section 6(d) of the Act mandated that Refuge Management and the Secretary shall (1) protect and maintain water rights necessary for protection of monument, park, preserve, and refuge resources and uses; and (2) minimize, to the extent consistent with the protection of national wildlife refuge resources, adverse impacts on other water users.”

Furthermore, according to the USFWS *Conceptual Management Plan*, the Baca NWR is to be managed for the purpose of:

“Restoring, enhancing and maintaining wetland, upland, riparian and other habitats for wildlife, plants and fish species that are native to the San Luis Valley, Colorado. Management of the Refuge will emphasize migratory bird conservation and will consider the Refuge’s role in broader landscape conservation efforts.”

Studies conducted by the prestigious Colorado Natural Heritage Program (CNHP) have identified the refuge and surrounding area as the largest, most concentrated area of Outstanding Biodiversity Significance in the San Luis Valley. At least 5 CNHP Potential Conservation Areas are likely to occur in or very near Lexam’s drilling area, as currently proposed.

Recent studies conducted in the area suggest that the refuge may be an important sanctuary for more than 36 state and federally listed rare, threatened or endangered species. The refuge contains potential habitat for the Southwestern willow flycatcher – a federally endangered species. It also supports the largest known population of the globally imperiled slender spider flower, and the only known genetically unique population of the state endangered Rio Grande sucker. Other species of concern with the potential to occur on the refuge include Wilson’s phalarope, White-faced ibis, Great Sand Dunes tiger beetle, San Luis sandhill skipper, Brazilian free-tailed bat and a locally unique subspecies of the northern pocket gopher (see Attachment A).

Some of the most pristine waters remaining in the continental US flow into the Baca NWR. The convergence point for eight drainages, the snowmelt-fed waters flow off the western slope of the Sangre de Cristo Mountains through San Isabel, North and South Crestone, Willow, Spanish, Cottonwood and Deadman Creeks, feeding an immense 6-mile long system of wet meadows and riparian corridors in the northeastern part of the refuge. The Saguache and San Luis drainages carry waters from the eastern slope of the San Juan Mountains where they feed a complex network of seasonal playa wetlands. Collectively, these waters comprise a critical recharge point for the vast unconfined and confined aquifers of the San Luis Valley. These aquifers are the lifeblood of wetlands, wildlife, agriculture, and

communities of the San Luis Valley extending into the Rio Grande, through to New Mexico, Texas and eventually Mexico.

This extraordinary gathering of waters feed over 15,000 acres of irrigated wetlands, and another 10,000 acres of natural wetlands and playas, including 4,000 acres of National Inventory Wetlands. This is considered by many to be among the most concentrated, pristine and biologically diverse wetlands in the entire southwestern United States. These ever shifting, dynamic wetlands provide critical habitat for numerous migratory birds that come to the San Luis Valley to breed and rear their young each year. Because Lexam proposes to drill 2 – 14,000' deep test wells in the midst of these valuable and sensitive waterways and wetlands, the agency must address the impacts to water (including water depletion, impacts to water quality, impacts to wetlands, disposal of produced water, etc.).

Cultural Values: People have been drawn to the land now designated as the Baca NWR since the dawn of civilization in North America. The Clovis hunters lived and hunted in the San Luis Valley, over 11,500 years ago when the mighty woolly mammoth and saber cat roamed the grasslands of the Valley. A continuous flow of people and cultures followed, including the Folsom people, and more recently the northern Pueblo, Ute and Hopi. Scientists with the Smithsonian Institute's National Museum of Natural History are currently documenting the extraordinary paleoarcheology of the area.

Formally part of the 100,000-acre Luis de Baca Maria Land Grant #4, the Baca NWR also reflects the region's rich Spanish and Mexican heritage. Ranching and agriculture have been historically important in the Baca NWR and remain important to the people of the San Luis Valley to this day.

Because of its many extraordinary biological, hydrological and cultural values, the Baca NWR has been chosen for inclusion as part of the Sangre de Cristo National Heritage Area currently being considered by Congress. Only the third National Heritage Area to be proposed for designation west of the Mississippi, the Sangre de Cristo National Heritage Area has been nationally recognized for its outstanding historical, religious, environmental, geographic, geological, cultural and linguistic attributes that make a unique contribution to the Nations history.

Perhaps not surprising is the advent of a modern culture of sustainability that is emerging in the communities surrounding the Baca NWR. The Crestone/Baca communities are home to the greatest concentration of spiritual retreat centers in the United States. Drawn here by the extraordinary beauty, solitude and splendor of the high-elevation rural setting, religious traditions ranging from the Carmelites to the ancient Tibetan Bon religion reside here in an effort of harmony. The Japanese Shumei International Institute has its headquarters in the mountains overlooking the Baca NWR. These centers support the famous Lindisfarne Chapel and Padmasambhava and Tashi Gomang Stupas, among other important spiritual monuments.

The Crestone/Baca communities have long been known as a center for sustainability. Home of the annual Crestone Energy Fair, now in its 21st year, the

community is becoming increasingly recognized as a model for ecological building, energy use and lifestyles.

Lexam is proposing to drill less than one mile from the Baca Grande subdivision where most of the Spiritual Centers are located. The air and noise pollution and scenic impact of gas and oil exploitation will have a devastating effect on the culture and economy of these communities. The impact on the areas private lands must also be fully evaluated.

Recreational Values: With no Comprehensive Conservation Plan (CCP) in place, members of the community and the public at large have not yet had the privilege of visiting the Baca NWR. Nevertheless, the 92,500-acre refuge promises to be a recreational paradise. Hunters, hikers, bird watchers, students, educators, researchers, painters, photographers and other nature enthusiasts will find a multitude of opportunity in the diverse, spectacular lands of the refuge.

Allowing recreational use will provide the surrounding communities with long-term, sustainable economic opportunities derived from the infusion of money expended by visitors. Lexam's drilling activities are currently taking precedence over the development of a CCP, thus depriving the community, among the poorest in the State, of this important source of revenue.

Sadly, the Baca National Wildlife Refuge is threatened by one of our nation's most poorly justified predilections: the exploitation and degradation of our most special public lands for relatively miniscule reserves of oil and gas.

3. History of Lexam Explorations' Drilling Proposal, Community Response and San Luis Valley Ecosystem Council's Lawsuit

The US government paid \$33 million dollars to hold the Baca NWR in perpetuity for the American people. Unfortunately, the subsurface mineral rights, owned by Lexam, were not available for purchase when the refuge was established. When Lexam notified the refuge of its intention to explore for natural gas, the position of USFWS was that it "will not attempt to stop Lexam from exercising their right to explore for oil and/or gas on those portions of the Baca NWR in which Lexam owns the subsurface rights." The primary concern of USFWS was "the potential for long-term irreversible damage to the environment and they will work to prevent these above all other concerns."

A legal complaint filed by the Energy Minerals Law Center on behalf of the San Luis Valley Ecosystem Council (SLVEC) seeks to ensure that the public was fully informed of Lexam's drilling plans for the Baca NWR. San Luis Valley Ecosystem Council's suit seeks to also ensure that a full range of alternatives and mitigation measures are presented to the public before the drilling project causes any further surface impacts to the Baca NWR. The suit asks the Colorado Federal District Court in Denver to ensure that impacts to the Baca NWR are not allowed by the USFWS until after the public has had an opportunity to participate in the formal decision-making process mandated by NEPA.

San Luis Valley Ecosystem Council's lawsuit asserts that USFWS has ample legal authority to protect the Baca NWR, even where the subsurface mineral rights are privately owned. Further, the lawsuit asserts that not only does the USFWS have the legal duty to implement NEPA, the public owners of these federal lands deserve to have input into what happens on the Baca NWR. USFWS reversed its position and is now in the first stage of implementing the scoping process required under NEPA. Prior to the application of NEPA, USFWS was working with Lexam representatives, through a non-binding surface use agreement, to negotiate protection for the refuge through a Negotiated Operations Plan.

The NEPA Environmental Assessment (EA) process, giving rise to these scoping comments was formally begun on August 17, 2007 with a *Notice of Intent to Prepare an Environmental Assessment*. However, it is important to note that an informal public process truly began in August 2006 with the announcement from USFWS that Lexam intended to commence gas and oil exploration on the recently designated Baca NWR. The USFWS determination that it had no authority to employ NEPA deprived the public of entering into a formal public process at that time. Three community meetings were held regarding Lexam's proposal to drill in the NWR without benefit of a formal NEPA scoping process.

In February 2007 a full-scale, 25-square mile seismic study was completed without NEPA oversight or public input and on March 3, 2007 the Colorado Oil and Gas Conservation Commission (COGCC) approved Lexam's permits to drill in the absence of a full federal review.

It is in this light that the Crestone Baca Land Trust, San Luis Valley Ecosystem Council and the above-named individual organizations and their *more than 700,000 members* submit these scoping comments. We believe that the USFWS should not issue permits for surface occupancy, wetlands modifications or water usage/diversions or any drilling within the Baca NWR until the required EIS and CCP studies and analyses are completed. These steps are necessary to provide reasonably assured means to protect this special place and its fish, wildlife and plant resources, their habitats, and the hydrological and ecological processes by which the area evolved to its current state for the benefit of current and future generations of Americans.

4. History of Efforts to Protect the Waters of the San Luis Valley and Baca National Wildlife Refuge and the Imperative of NEPA

The Great Sand Dunes National Park and Preserve Act of 2000 was a culmination of public support that was engaged for more than a decade. In December of 1987, a corporation called American Water Development Incorporated (AWDI), with Canadian shareholders, applied to water court for the right to pump 200,000-acre ft. of water per year from the confined aquifer underlying the Baca Ranch.

Many efforts were made on the federal, state and local level to protect water interests in the San Luis Valley. Examples include U.S. Senate Bill 1812 (102

Congress, 1st Session) introduced by Tim Wirth on October 4, 1991. The intention of this bill was to:

“provide for the protection of the water resources of the San Luis Valley from the potential impact of proposed water development projects for export of water out of the San Luis Valley upon Federal interests in Federal reclamation projects, interstate compacts for the allocation of water, national monuments, and national wildlife refuges, wildlife habitat area of withdrawals, and for other purposes.”

Saguache County passed a “Significant Recharge Area” ordinance through its 1041 regulations in 1994. It protects the waters flowing into the Baca Ranch based on a permeability study analyzing how much surface water will absorb into the soil within a 24-hour period. Anything above 6-ft./per day was considered a high recharge zone. A permeability rate of 17-ft./day was measured in some areas of the Baca NWR (Allen Davey Study prepared for AWDI legal case). The significance of the recharge area of the refuge demands further consideration, research and documentation under an EIS process in order to ensure that this important ecological process is protected.

In early 1992, Division 3 Water Court Judge Ogburn ruled against AWDI’s claims and declared that the water underlying the Baca ranch was indeed tributary to the surface waters above it. Liens were placed on the Baca Ranch and in 1995 AWDI sold its Baca Ranch interest to Farallon Capital Management Incorporated. A local named Gary Boyce arranged a corporate partnership called Vaca Partners and he brought on Ex-State Division Water Engineer for Colorado, Jeris Danielson to help with lobbying efforts.

Vaca Partners also had plans to develop the water but not through water court, instead deciding to enter the political arena. This included lobbying the Bureau of Reclamation to privatize the Closed Basin Project; developing water contracts with places like Parker Water and Sanitation Dist. in Douglas County; lobbying the City of Albuquerque to develop strategies to undermine the Rio Grande Compact; and finally, in 1998 launching two ballot initiatives in the State of Colorado to cripple senior water users on the Rio Grande and undermine the funding mechanism of the Rio Grande Water Conservation District, the leading local unit of government representing the Closed Basin Project. A coalition of locals including farmers, ranchers, environmentalists and businesses defeated these ballot initiatives, raising over \$1 million dollars within 6 months to mount a counter-campaign to develop unprecedented outreach throughout the state.

In 1998, Colorado House Bill 98-1011 was passed requesting that, due to insufficient knowledge, a confined aquifer study be conducted in the San Luis Valley:

*“Concerning the replacement of depletions from new withdrawals of groundwater division 3 that will affect the rate **or direction of movement of groundwater in the confined aquifer**, and, in connection therewith, authorizing the State Engineer to promulgate rules that optimize the use of*

the groundwater and provide alternative methods to prevent injury”.

In section (3) (a), the Water and Irrigation Act states that:

*“The hydrologic system in water division 3 and, in particular, the hydrology and geology of the shallow aquifer and confined aquifer systems and their relationship to surface streams in water division 3 are **unique and are among the most complex in the state**...there is currently **insufficient comprehensive data and knowledge of the relationship between the surface streams and the confined aquifer system** to permit a full understanding of the effect of groundwater withdrawals, affecting the confined aquifer upon the natural stream and aquifer systems in water division 3...*(b)1. [rules promulgated by the State Engineer] shall be based upon specific study of the confined aquifer system and shall be promulgated prior to July 1, 2001...the State Engineer and the Colorado Water Conservation Board shall proceed with diligence to complete needed studies”.**

This act is important for two reasons:

- 1) It underscores the complex and poorly understood nature of the regions geohydrology, even of the relatively shallow unconfined and confined aquifers and;
- 2) It addresses the need for further studies in order to better understand and inform water-related policy.

We maintain that allowing Lexam to drill 14,000’ wells in a poorly understood geohydrologic environment would be a grave mistake. The potential exists for breaching of ancient geologic barriers that could radically alter the direction of movement and quality of waters and thus result in irreversible contamination of the Valley’s potable aquifers. For example, oil exploration in the 1930’s unleashed what is now Sand Dunes Swimming Pool, a vast 118° geothermal source that has had major permanent impacts on the surrounding area. A comprehensive geohydrologic study is needed to provide a better understanding of the deep strata and complex aquifer systems that will be impacted by drilling two 14,000’ deep wells. Most importantly, such analysis needs to fully assess the potential impacts on surface and ground waters that could result from this proposal. Until such studies have been completed, drilling must not be allowed to proceed.

In 2000, with the help of The Nature Conservancy, the *Great Sand Dunes National Park and Preserve Act* was passed, permanently placing the surface and ground waters under the Great Sand Dunes National Park, Rio Grande National Forest and Baca National Wildlife Refuge under federal protection.

It can be easily argued that far more time, effort and financial resources have been invested in protecting the surface and groundwater lying beneath the Baca NWR than has been spent by Lexam and ConocoPhillips acquiring the mineral rights. Furthermore, the value and importance of protecting the Valleys vulnerable water resources is undoubtedly far greater than a few weeks or months supply of natural

gas or oil.

Lexam is now aggressively pursuing the development of its mineral rights. It appears decision-making over this past year by USFWS is elevating the worth of private capital investment over the hard won efforts of the long-term public interest investment, which we argue need not be the case and flies in direct contradiction to the original rationale for the establishment of the Baca NWR.

It would be a tragic mistake if the USFWS allows degradation of the Baca NWR for speculative resource extraction. Considerable time, effort and money have already been expended by a host of organizations and individuals to set aside the Baca NWR for “current and future generations of Americans.”

The National Wildlife Refuge Act explicitly directs the USFWS to:

“administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

In 1969, the National Environmental Policy Act (NEPA) was enacted. NEPA, in establishing a national environmental policy, directs the USFWS to:

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. Assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
4. Preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment that supports diversity, and variety of individual choice;
5. Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life’s amenities;
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources;

NEPA’s directives are critical given that “to the fullest extent possible,” they “be interpreted and administered in accordance with the policies set forth” by NEPA – i.e., those set forth in 42 U.S.C. § 4331. This principle is reinforced, and succinctly articulated, by enforceable regulations promulgated by the Council on Environmental Quality, which direct the USFWS to:

“Use all practicable means, consistent with the requirements of NEPA and other essential considerations of national policy, to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment”.

In addition to the authorities and duties provided by the Clean Water Act, Clean Air Act, Wetlands protection statutes, Cultural and Historical Preservation Acts, and NEPA, several other statutes and authorities bear witness to the legal validity – if not necessity – of rigorous protection of the surface and groundwater resources of the refuge. All of these need further study before gas and oil development is allowed to proceed. For example, the Federal Clean Water Act states that its objective “is to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The laws and authorities referenced above are not intended to be exhaustive but, rather, indicative of the USFWS’s authority and duty to protect the Baca National Wildlife Refuge.

5. Concerns Over the US Fish and Wildlife Service’s Reluctance to Protect Refuge Fish, Wildlife, Plant and Habitat Resources to the Maximum Extent Possible

In addition to the mandate of administering land and waters for the purpose of conservation and restoration of the fish, wildlife, plants and their habitats, the National Wildlife Refuge System Improvement Act of 1997 directs USFWS to:

“ensure that the biological integrity, diversity, and environmental health of the System are maintained for the benefit of present and future generations of Americans...to contribute to the conservation of the ecosystems of the United States, to complement efforts of States and other Federal agencies to conserve fish and wildlife and their habitats, and to increase support for the System and participation from conservation partners and the public”

We appreciate the USFWS’s sincere efforts to engage the public in the pre-scoping public participation process for Lexam’s proposal to drill for gas and oil in the Baca National Wildlife Refuge.

That said, we have serious concerns about the Fish and Wildlife Service’s management direction in the Baca NWR. Despite the purported emphasis on protecting the ecological and biological, cultural and hydrologic resources of the refuge, the USFWS seems reluctant to exercise the authority it has been vested with, indeed, its mandate, to protect these resources **to the maximum extent possible**.

The initial decision of the USFWS to allow Lexam to conduct exploration activities without compliance with NEPA or a completed Comprehensive Conservation Plan was highly alarming to the citizens and communities who will be directly and heavily impacted by this action. We welcome the USFWS decision to begin the

NEPA process. However, there remains an underlying tone of acceptance that there is not much that can be done to modify or mitigate the inevitable surface impacts of Lexam exercising its private property rights: this is cause for great concern.

The USFWS has considerable authority to require a level of protection consonant with the land's irreplaceable resources and values. We are concerned that the Standards and Practices currently being drafted will leave the door wide open for unreasonable irreversible degradation of the surface resources of the Baca NWR as well as permanent adverse effects on the surrounding human environment.

In this context, we expect the USFWS Proposed Standards and Measures to be designed in response to Lexam's requests to determine the timing, location and methods that are most conducive to its drilling operations. If designing the Proposed Standards and Measures in this fashion, the USFWS is putting the proverbial "cart before the horse." In effect, the USFWS will deny itself the opportunity through the EIS and CCP processes to select a highly protective management alternative. Under such an alternative, the USFWS could determine the parameters within which Lexam would be allowed to exercise its subsurface mineral rights providing that it can prove no unreasonable degradation to the ecological and biological, cultural and hydrologic resources of the refuge.

Put simply, the USFWS holds the statutory and regulatory authority – and may in fact be duty bound – to simply say no (or, at the least, reserve the right to say no) to oil and gas development in the Baca National Wildlife Refuge until a thorough EIS, Comprehensive Conservation Plan, and geohydrologic study have been completed.

By assuming that drilling is a given and that its authority is restricted to "*only propose standards and measures for ensuring that the exploration of the mineral estate underlying the Baca NWR does not unreasonably degrade or impact the refuge's surface estate and associated resources*", USFWS is abrogating its authority and obligation to, first and foremost, consider the more relevant question as to whether gas and oil development is compatible with the overriding purpose of the refuge to protect wildlife.

The USFWS's position that it is "*not authorized to decide whether Lexam Explorations, Inc. is able to explore or develop its privately-owned mineral estate; rather, the Service has only a limited ability to affect the time, place, and manner of Lexam's activities*," again abrogates the authority vested in the refuge Manager and Secretary of Interior to decide whether or not oil and gas development constitutes a conflict of use that is incompatible with the purpose of the refuge and to consider other alternatives, such as relocation of drilling activities well away from highly sensitive wetland and riparian areas, a federal minerals buyout, and other measures directed at protecting the refuge resources to the fullest extent possible.

6. Concerns with the US Fish and Wildlife Service's Conceptual Management Plan

Under the National Wildlife Refuge System Improvement Act of 1997 (Refuge Improvement Act), all national wildlife refuges are required to develop a Comprehensive Conservation Plan (CCP). A CCP is a document that provides a framework for guiding refuge management decisions. All refuges are required by law to complete a CCP by 2012.

In a letter dated September 4, 2007 the Baca NWR Project Leader stated that:

“At this time... the agency believes it has enough site specific information through the Conceptual Management Plan and additional on the ground assessments to develop standards and measures to minimize disturbance to the surface estate and cannot justify requesting an extended delay while a CCP is developed, a process that would take several years once started.”

The Conceptual Management Plan (CMP) completed in May 2005, is an interim document intended to guide refuge management over the ensuing 3-5 years. Developed without the benefit of the thorough data collection and analysis or public process required of a Comprehensive Conservation Plan, the CMP does not provide sufficient site-specific information to adequately assess impacts or guide major agency actions such as overseeing the proposed gas and oil development project.

The CMP was developed through a process of internal meetings in 2004 between local field staff, Denver regional office management and planning staff at Alamosa National Wildlife Refuge, open-house events and meetings between refuge staff and Saguache and Alamosa County commissioners. Two open-house public meetings were hosted to disseminate information pertaining to the CMP and to gather public comments and concerns about future refuge management. The first meeting, held in Alamosa on April 4, 2004 was attended by seven people, the second meeting, held in Crestone on April 5, 2004 was attended by six people. In comparison, on very short notice, more than 100 people attended the EA scoping meeting held by USFWS on August 17, 2007 in response to concerns about oil and gas development in the refuge. This CMP cannot replace the critical step of developing a Comprehensive Conservation Plan as mandated by the Refuge Improvement Act.

Under the Refuge Improvement Act each CCP shall identify and describe—

- The purposes of each refuge comprising the planning unit;
- The distribution, migration patterns, and abundance of fish, wildlife, and plant populations and related habitats within the planning unit;
- The archaeological and cultural values of the planning unit;
- Significant problems that may adversely affect the populations and habitats of fish, wildlife, and plants within the planning unit and the actions necessary to correct or mitigate such problems;
- Opportunities for compatible wildlife-dependent recreational uses;
- Coordinate the development of the conservation plan or revision with relevant State conservation plans for fish and wildlife and their habitats;

- Ensure an opportunity for active public involvement in the preparation and revision of the Comprehensive Conservation Plan.

Furthermore, the Refuge Improvement Act stipulates that, “the Secretary shall *“revise the plan at any time if the conditions that affect the refuge or planning unit have changed significantly.”*”

Lexam’s proposal to conduct extensive gas and oil exploration activities clearly constitutes a significant change from the conditions under which the CMP was initially developed.

7. Need for a Model Environmental Impact Statement and Comprehensive Conservation Plan

The potential impacts of Lexam’s proposal to drill will have undeniable significant impacts on all resources and values of the Baca NWR across the board. Regardless of how USFWS ultimately decides to manage the Baca NWR, it is clear that they are obligated to prepare a conceptually and scientifically sound Environmental Impact Statement (EIS) and subsequent Comprehensive Conservation Plan (CCP).

We urge the USFWS to place the EIS and in the broader, interconnected landscape context that it holds beyond the administrative boundaries of the Baca NWR. Such an approach should consider a defined ecological unit that encompasses the larger interconnected series of watersheds that the Baca NWR is contained within. Such a perspective may open up new management options (i.e., NEPA alternatives) for the USFWS that cannot be identified by simply looking within the Baca NWR administrative boundaries. Moreover, such a perspective will allow the USFWS to properly consider the environmental impacts of each management alternative. Approaching the development of an EIS and CCP from within this broader context will facilitate linkages between the CCP and public land management processes currently underway with the Sand Dunes National Park and Rio Grande National Forest as mandated under NEPA. Such coordination will avoid the problems such as that demonstrated around the North Access Road described elsewhere in this document.

In preparing the EA the USFWS should be cognizant of the fact that NEPA is our “basic national charter for the protection of the environment.” 40 C.F.R. § 1500.1. NEPA has twin objectives. First, to ensure that a federal agency “consider[s] every significant aspect of the environmental impact of a proposed action.” *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 97 (1983). And second, to “ensure that the agency will inform the public that it has indeed considered environmental concerns in its decision making process.” *Id.* To achieve these objectives, NEPA imposes “action forcing procedures... requir[ing] that agencies take a hard look at environmental consequences.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) (citations omitted). These procedures instill upon federal agencies a ‘look before you leap’ ethic – i.e., agencies must take a “hard look” at the environmental consequences of a proposed action “*prior* to a decision, when the decision maker retains a maximum

range of options.” *Sierra Club v. Peterson*, 717 F.2d 1409, 1413-1414 (D.C. Cir. 1983) (emphasis in original).

While procedural in nature, NEPA’s relevance to substantive decision-making must not be discounted. NEPA provides a vehicle to ensure compliance with other legal obligations and encourage environmental protection. *See Andrus v. Sierra Club*, 442 U.S. 347, 350-351 (1979):

“The thrust of [NEPA] is ... that environmental concerns be integrated into the very process of agency decision-making. The ‘detailed statement’ it requires is the outward sign that environmental values and consequences have been considered during the planning stage of agency actions. If environmental concerns are not interwoven into the fabric of agency planning, the ‘action-forcing’ characteristics of [NEPA] would be lost”); *Center for Biological Diversity v. U.S. Fish and Wildlife Service*, 349 F. 3d 1157, 1166 (9th Cir. 2003) (“[t]he procedures prescribed both in NEPA and the implementing regulations are to be strictly interpreted ‘to the fullest extent possible’ in accord with the policies embodied in the Act ... ‘[g]rudging, *pro forma* compliance will not do”) [citations omitted]; 42 U.S.C. § 4332(1) (“to the fullest extent possible ... the policies, regulations, and public laws of the United States shall be *interpreted and administered* in accordance with the policies set forth in [NEPA]” (emphasis added).

As eloquently explained by the Council on Environmental Quality (CEQ) regulations implementing NEPA:

“Ultimately, of course, it is not better documents but *better decisions* that count. NEPA’s purpose is not to generate paperwork – even excellent paperwork – but to foster excellent *action*. The NEPA process is intended to help public officials make *decisions* that are based on understanding of environmental consequences, and take *actions that protect, restore, and enhance the environment*. 40 C.F.R. § 1500.1(c) [emphasis added].”

It is axiomatic that federal agencies must comply with NEPA before there are:

“any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.” 42 U.S.C. § 4332(2)(C)(v); 40 C.F.R. §§ 1501.2, 1502.5(a); *Sierra Club v. Hodel*, 848 F.2d 1068, 1093 (10th Cir. 1988) (“[a]gencies are to perform this hard look *before* committing themselves irretrievably to a given course of action, so that the action can be shaped to account for environmental values”) [emphasis added]; *see also Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1216 (9th Cir. 1998) (NEPA’s action-forcing procedures require the agency to prepare a “coherent and comprehensive up-front environmental analysis to ensure informed decision making to the end that ‘the agency will not act on incomplete information, only to regret its decision after it is too late to correct’”) (*quoting Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989)).”

C. Alternatives

A critical companion to the analysis of impacts is the consideration of alternatives. Alternatives are the “heart” of the NEPA process and thus essential to assess whether a federal agency has taken the requisite “hard look” at relevant environmental concerns. 40 C.F.R. § 1502.14; *Grand Canyon Trust*, 290 F.3d 339, 340-341 (D.C. Cir. 2002). NEPA obligates federal agencies to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. § 4332(E); *see also* § 4332(2)(C)(iii). In so doing, agencies must “[r]igorously explore and objectively evaluate all reasonable alternatives . . .” 40 C.F.R. § 1502.14(a). The range of alternatives must “*sharply defin[e]* the issues and *provid[e]* a clear basis for choice among options by the decisionmaker *and* the public.” 40 C.F.R. § 1502.14 (emphasis added). Notably, the agency’s duty to consider alternatives “is both independent of, and broader than,” its duty to complete an environmental analysis. *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1229 (9th Cir. 1988).

In the Tenth Circuit – which is where the Baca NWR is located – courts apply a “rule of reason” analysis to determine whether the range of alternatives, “and the extent to which it discuss[ed] them,” was reasonable and adequate. *Utahns for Better Transp. v. Department of Transp.*, 305 F.3d 1152, 1166 (10th Cir. 2002); *Colorado Envtl. Coalition v. Dombeck*, 185 F.3d 1162, 1174 (10th Cir. 1999). Federal agencies must consider “all reasonable alternatives to the proposed action.” *Utahns for Better Transp.*, 305 F.3d at 1166. This includes “[a]lternatives that fall between the obvious extremes.” *Colorado Envtl. Coalition*, 185 F.3d at 1175. Here, we feel that the USFWS, in addition to considering its own proposed action, need also consider the management alternative proposed below.

Distinctions between alternatives should be fleshed out by the USFWS through the NEPA process that sharply focus the relevant issues and provide the USFWS and the public with, hopefully, a clear basis for choice as to how the Baca NWR should ultimately be managed. We also request that as the agency develops these alternatives, they stay in communication with us to ensure that when presented to the public, the alternatives appropriately embody the public’s views and are appropriate for implementation.

Additionally, in crafting management alternatives, the USFWS needs to assess protective actions that would complement the restoration work carried out on the Baca NWR and potential consideration for Outstanding National Resource Water designation. In other words, management alternatives must consider options that would not preclude or impair management that may ultimately be designated as Outstanding National Resource Waters.

The contours of each management alternative should also reflect agency resources. The Environmental Assessment (EA) should thus be a practical document that ensures the allocation of adequate staff and establishes reasonable timetables to meet management objectives and ensure compliance with Standards and Measures.

This raises a related issue of accountability. The EA, at its roots, constitutes a bundle of promises made by the USFWS to the people. The USFWS needs to be held accountable on these promises. By making the EA reflective of agency resources, the USFWS provides itself with a reasonable degree of certainty that it is capable of fully complying with the EA and has not overcommitted itself. One important component of this is planning for a variety of budget scenarios and their potential impacts on management success and effects. By binding itself to the promises made within the EA, the USFWS ensures that decisions are credible and viable, thus creating an incentive for public participation and increasing the public's trust in the USFWS's ability to manage public resources.

Given the history of accountability problems and an extreme lack of funding, infrastructure and resources that the National Wildlife Refuge System has suffered (as outlined below), this is a central concern.

8. Lack of Funding and Personnel

Lack of funding and personnel were identified as significant constraints to effective refuge management even before Lexam's proposal to drill in the Baca NWR. Chapter 2, "Planning Process and Key Issues" section 2.2 of the CMP entitled "Lack of Funding and Personnel," states that:

*"with the addition of the Baca NWR to the refuge complex, Congress significantly expanded the Service's management responsibilities in the San Luis Valley, without expanding its operation budget and personnel base... **Without sufficient personnel and funding, most if not all of the goals and action items described in this CMP will be difficult, if not impossible, to attain.***

The USFWS currently employs a single Refuge Manager and one maintenance worker to oversee the Baca NWR, Colorado's largest and most complex refuge. We do not yet know the budget allocation to the Baca NWR in FY2008 but it is certain that refuge staff and resources have been severely overburdened by the demands imposed by Lexam's oil and gas exploration activities.

Underscoring this situation, on July 30, 2007, the Government Accountability Office (GAO) issued report number GAO-07-829R entitled "*U.S. Fish and Wildlife Service: Opportunities Remain to Improve Oversight and Management of Oil and Gas Activities on National Wildlife Refuges.*" This report outlined the current inability of NWR staff to adequately oversee gas and oil activities:

"A team of FWS managers... determined that a total of 45 positions are needed to oversee oil and gas activities for the national wildlife refuge system, including 32 refuge oil and gas specialists, 7 regional coordinators, and a 6-person Mineral Resources Team...FWS reported to us that under current budget circumstances, creating 45 positions is not feasible... if

additional funding becomes available, it will create three new positions to form a national Mineral Resources Team.”

The GAO further concludes:

“... comparing staff levels with the National Park Service... and assessing expected increases in oil and gas activities on refuge lands.. the Park Service has 13 dedicated positions to manage over 700 wells in 12 parks. This equates to just over 1 person per park, and about 54 wells per person. FWS has 4,400 wells on 105 refuges. A staffing level of 45 equates to less than 1 person for every 2 refuges and almost 100 wells per person. FWS does not appear to be taking aggressive steps to adequately staff the agency’s management and oversight of oil and gas activities. In general, FWS is planning for reductions in overall refuge staffing levels and conceded to us that the loss of staff will have a significant effect on all programs within the refuge system, including oil and gas management.”

Furthermore, a recent report entitled *National Wildlife Refuges: Colorado Funding Crisis*, by the Cooperative Alliance for Refuge Enhancement (CARE) found that:

“due to severe budget shortfalls, refuges in the Mountain-Prairie region are now in the midst of reducing staff by 23 percent. The region needs an annual increase of \$2 million just to meet rising salary and benefits costs, while Colorado refuges alone need a \$515,000 annual increase just to retain current services. But years of flat funding coupled with rising fixed costs such as fuel, electricity, and cost of living increases, has forced USFWS to de-staff and divert resources from some refuges in order to fulfill its responsibilities region-wide.”

Furthermore, the report concludes that:

“Under the new work force restructuring plan, Colorado staffing will be reduced by 20 percent from 2004 levels. With the permanent loss of biologists, recreation planners, and maintenance personnel, Colorado refuges will be forced to cut educational programs, close offices, allow equipment and visitor infrastructure to fall into disrepair, and significantly reduce biological management and monitoring of endangered species at certain refuges.”

The Refuge System categorizes its operational needs into tiers. Tier-1 projects are considered the most urgent and important of priorities. According to the CARE report:

“unfunded Tier-1 projects currently number more than 2,320 and sum to over \$251 million. Of these, 919 backlogged projects are considered “mission critical” ... the maintenance backlog now exceeds \$1.5 billion, creating a veritable logjam of deferred maintenance projects that has handcuffed refuge staff in their pursuit to protect wildlife and serve the public.”

The GAO and CARE reports highlight the importance of giving these severe funding and organizational capacity issues full consideration in the EIS. Budgets and priorities must be disclosed. We strongly urge USFWS to put all further oil and gas development activities on hold until sufficient resources can be assured and allocated to effectively oversee these operations.

9. Range of Alternatives

In addition to the alternatives suggested in the various sections of this comment, we urge USFWS to consider a full range of alternatives regarding the timing, manner and way in which gas and oil exploration activities are allowed to be implemented that includes the following:

- a. Federal purchase of the mineral rights to the Baca NWR;
- b. A moratorium on oil and gas exploration activities until completion of an EIS and a Comprehensive Management Plan;
- c. Federal support for joint permitting with the Colorado Oil and Gas Conservation Commission (COGCC) of the application for test well #7 and reconsideration under the new State legislation and guidelines, of well permits #5, #6;
- d. Directional drilling from outside of the Baca NWR;
- e. Authorization of one test well instead of two;
- f. USFWS request that COGCC apply double casing as an added safety measure;
- g. USFWS request that COGCC require full double casing of the entire (12,000 – 14,000) foot drill hole.
- h. Monitoring of water quality as well as aquatic species diversity, range and abundance;
- i. Require that bridges be constructed over meadows, wetlands and riparian areas that cannot be avoided;
- j. Conduct a pre-test well study and continuous monitoring of Crestone creek and all waterways (including ditches) where Rio Grande Sucker populations occur;
- k. Conduct a pre-test well study of water quality and species diversity in all streams, ditches and wetlands within ½ mile of a road being used by Lexam or test well site;
- l. Continuous monitoring of species diversity in all streams, ditches and wetlands within ½ mile of a road being used by Lexam or test well site, and
- m. Authorization and funding for a community monitoring team to oversee drilling activities and monitor impacts on air, water, sound, wildlife, etc.

10. Public Use

The public is not currently permitted on the Baca NWR and will not be granted access until a CCP is in place. The CCP is not scheduled to begin until 2011. This

staggered time delay in relation to neighboring agencies planning processes is depriving the Baca NWR and the public of the benefits of this important public process. The National Park Service's General Management Plan (GMP), final EIS was recently completed and the US Forest Service Baca Mountain Tract Environmental Assessment draft is in process and scheduled for completion this spring. These plans have already impacted decision-making on important issues such as "Where will the north access road to the National Park and Forest Service be located?"

Baca NWR contains most of the roads entering into the former Baca Ranch and is in a unique position to grant access to the other public land agencies. Since the CCP isn't scheduled for four years, there will be no opportunity to do a "compatibility" analysis. Instead, this access issue is now being decided by Saguache County and Baca Grande sub-division residents, who, in the absence of USFWS participation, have no choice but to grant access. The public, Baca NWR, NPS and USFWS land managers have been discussing this issue since 2004, convening well over 25 meetings. Originally, the NPS draft alternatives did include Baca NWR access roads to a Forest Service boundary. Because the Baca NWR did not have a Management Plan in process, they were taken off the table in September 2006. The local community was left in a state of confusion, having to focus on other, perhaps less satisfactory, alternatives.

Now the Baca NWR is providing access to Lexam's plan to drill 2-14,000 ft. wells, using existing roads including the Lexam Road built before the refuge was designated. The Lexam drilling proposal includes plans to upgrade and build almost 7 miles of roads to accommodate the new drill sites. The local community is once again confused by this sense of priorities. The public and Baca NWR managers, are forced to adapt to a "privatize profits, socialize losses" decision-making framework.

11. Partnerships

Saguache County is in the process of developing Oil and Gas Rules and Regulations. They have been working with other counties in Colorado, especially on the western slope, who have been faced with air and water contamination, wildlife and cattle displacement and poisoning, land use degradation and reclamation, and a host of other land, water and socioeconomic issues that accompany oil and gas development. SLVEC and CBLT recommend that a moratorium be placed on any new oil and gas exploration on the Baca NWR, including no ground breaking activity, until Saguache County has an opportunity to put well considered regulations in place.

Lexam is proposing a new test well site further south, called Well #7, presumably in exchange for the Well #6 test site. A Colorado Oil and Gas Conservation Commission permit will be required for the new Well #7 location. SLVEC and CBLT recommend that the USFWS require Lexam's Well #7 permit and reconsideration of Well #5 be done under the current Oil and Gas Conservation Commission permit process. This will provide greater continuity and uniformity of

analysis regarding the methodology, guidelines and regulations being required under the current state administration for this proposed project.

12. Riparian Habitat, Rio Grande sucker and Watershed Protection

As currently proposed, Lexam's drilling program will directly impact four riparian streams and their associated irrigation canals. Construction routes will bisect North Crestone and South Crestone Creeks and their associated irrigation ditches. Well #5 is very close to Willow Creek and the newly proposed Well #7 is within ¼ mile of Spanish Creek. The approximately 1.25 – 2 miles of new road planned for construction to Wells #6 and #7 run within 1/10th of a mile from Spanish Creek in several places.

Although riparian habitats make up a very small part of the overall landscape, they support the highest species diversity of any habitat type. All of these creeks may provide habitat for two riparian-obligate species - the federally endangered southwestern willow flycatcher, and a federal endangered candidate species, the yellow-billed cuckoo. To our knowledge, no baseline studies have been conducted to determine the presence or absence of these vulnerable species. Each year, a rich diversity of neotropical migrant songbirds and raptors use these important riparian areas for nesting. Riparian corridors are used as habitat, shelter and safe passageways by many animals, including beaver, muskrat, squirrel, chipmunk, elk, deer, bobcat, fox and mountain lion.

The waters coming out of the Sangre de Cristo Mountains are exceptionally high quality. The geologically isolated nature of these creeks has protected them from invasion by introduced species. For this reason, the creeks in the refuge still support a rich and diverse native fauna. The recent discovery by the Colorado Division of Wildlife (CDOW) of a genetically unique population of the state endangered Rio Grande sucker in the lower part of Crestone creek, was a significant find that doubled the number of known populations from one to two. The Rio Grande sucker once thrived in creeks and rivers throughout the San Luis Valley. Habitat loss due to dewatering of streams for irrigation, degraded water quality and introduction of non-native fish led to the demise of Rio Grande sucker in Colorado.

The Baca NWR lands have been held privately for over a hundred years. To our knowledge, very little biological work has been conducted on the property. In this case, workers found an unusual looking fish and the refuge manager called CDOW fisheries biologists in to have a look. The discovery of the Rio Grande sucker, as well as a healthy population of the rare native Rio Grande chub, is a clear indication of the exceptional biological importance of the Baca NWR.

The Rio Grande sucker requires very specific conditions to survive and reproduce. Even slight changes in the pH of the water will adversely affect its reproduction. As proposed, Lexam will be allowed to upgrade and use roads that cross over North and Crestone creeks and their associated irrigation ditches where the Rio Grande sucker occurs. We are concerned that upgrade and use of these roads,

and the increase in sediments, potential contamination and other affects, could threaten the viability of this highly endangered native fish.

What Standards and Practices will USFWS employ to insure that the “upgraded” road crossings will not effect important habitat parameters of the Rio Grande sucker and other important riparian species? Have surveys been conducted to gather baseline data on the distribution, habitat needs (including water quality), population dynamics and other important parameters of species survival? We use the USFWS take every precaution possible to protect this unique and extraordinarily vulnerable fish population.

The refuge might also support two globally rare plant communities, the narrowleaf cottonwood/rocky mountain juniper and aspen/rocky mountain maple plant communities that are known to occur in close proximity to the refuge. According to the CMP, the refuge has not yet had the opportunity or resources to gather baseline information about the condition of vegetation, areas of degradation, invasive species or wildlife use in these important biological areas. Will surveys be conducted before drilling is allowed to proceed? If not, how will USFWS determine the level of degradation should it occur? Is USFWS working with the Colorado Division of Wildlife to develop and coordinate management of wildlife species of concern?

We urge USFWS to implement a full EIS analysis of the distribution, population biology, habitat utilization and needs, and potential effects of Lexam’s proposed project on the Rio Grande sucker, Rio Grande chub and other sensitive aquatic species yet to be determined. Furthermore, we request that a CCP be developed, in collaboration with CDOW, the National Park Service, National Forest Service and others relevant agencies, to guide the long-term management of these fragile and irreplaceable riparian-obligate species.

We are also concerned with the overall watershed health and integrity. Increased sediments from roads and related ground disturbing activities, chemical spills, and other soil and water impacts could affect watershed structure, function, and composition. How will USFWS assess how drilling activities impair the watershed, in particular the achievement of water quality standards promulgated pursuant to the Clean Water Act? An EIS process and development of a CCP is essential to developing an integrated, collaborative watershed protection plan.

13. Ecological and Biological Resources

The Baca NWR is a place of extraordinary ecological and biological value. Because of its geologic and geographic isolation and land use history, the general ecological health and integrity of the refuge is excellent. While post-EuroAmerican settlement and land use practices, primarily related to ranching, have altered the natural ecosystems somewhat, the refuge ecosystem structure remains integrated and intact. Connectivity is high throughout and habitat and ecosystem services are functioning well.

The refuge is an integral part of a 500,000-acre landscape of protected lands that includes the Great Sand Dunes National Park, Rio Grande National Forest as well as protected land and greenbelts within the Baca Grande subdivision. Nested within the San Luis Valley Upper Rio Grande Basin Ecoregion, adjacent to the unique Great Sand Dunes, this vast landscape offers resource management opportunities that are rare in the American West today. Having been recently designated, much is yet to be discovered about the refuge. According to the CMP:

“The biological significance and condition of the resources is not fully understood at this time due to limited access and lack of widespread biological inventories. However, given what is known from inventories conducted by the Colorado Natural Heritage Program (CNHP).... the refuge clearly represents a vital component in a large complex of relatively unaltered and intact lands with high biological diversity and ecological richness. CNHP identified 116 rare plant or animal species or significant plant communities within the Closed Basin region”.

In 2005, CNHP zoologist John Sovell conducted a Biological Assessment of the Baca Grande subdivision, immediately adjacent to the refuge. The results of the Sovell Report indicate that:

“ numerous animal species and one plant community of conservation priority [occur] within the Baca. Several uncommon and even rare species of animals (5 in all) inhabit the Baca. In all, 45 different animal species were recorded... We have delineated five potential conservation areas and one site of local significance where conservation is a desirable priority. These areas include the riparian corridors...along [Cottonwood, Spanish, Willow and South Crestone creeks]...these riparian woodlands sustain a wealth of biological diversity including a diverse community of riparian woodland birds, which indicates that the riparian hydrology is intact and functioning.... there is one area that includes a wetland, which supports a diverse number of aquatic dependent animals[and] an abundance of wildlife, including species of conservation priority.”

The Sovell Report identified occurrences of northern goshawk, mountain plover, Wilson’s phalarope, Brazilian free-tailed bat and the globally vulnerable northern pocket gopher, *agrestis* subspecies, all species of concern in Colorado, in the area.

These 5 Potential Conservation Areas (CPAs) are assigned the following rankings:

- 1) Cottonwood Creek, ranked (B2) Very High Biodiversity Significance;
- 2) Spanish Creek, ranked (B2) Very High Biodiversity Significance;
- 3) Willow Creek, ranked (B3) High Biodiversity Significance;
- 4) Crestone Creek, ranked (B3) High Biodiversity Significance;
- 5) Spanish Wetlands, Site of Local Significance.

While the Sovell Report focused on the Baca Grande subdivision directly adjacent to the northeastern boundary of the Baca NWR, all of these Potential Conservation Areas naturally extend into Baca NWR to the west. As currently proposed,

Lexam's entire drilling operation will be located in or very near these biologically significant areas.

Allowing oil and gas development in these important wetland and riparian habitats would severely degrade the overall biological integrity of the Baca NWR. We cannot conceive of any Standards and Measures that could adequately protect these sensitive lands. We urge the USFWS to include a preferred alternative in the EIS and CCP that directs Lexam's drilling activities well away from the Spanish Meadow and Cottonwood, Spanish, Willow and North and South Crestone drainages and their associated irrigation ditches.

We maintain that all drilling activities should be restricted to uplands along the existing Lexam Road. The profound impacts associated with Lexam's drilling activities are simply unacceptable in these sensitive areas.

In regard to our biodiversity concerns, we direct the USFWS to the attached list (Attachment A) of federal and state threatened, endangered, and sensitive species that we consider worthy and deserving of comprehensive field studies. The ability to implement multi-seasonal biological assessments, is currently beyond the capacity of the refuge to implement, as acknowledged in the CMP:

“The complexity, uniqueness and value of these new refuge lands demand that refuge managers begin to better understand the geomorphologic setting, as well as other important abiotic characteristics,... in order to effectively manage the unique habitats found on the refuge. Complicating effective management and monitoring of this system is the reality of a relatively small refuge staff with very limited resources. Much research will have to be conducted through partnerships with other organizations, but even this approach will require significant staff time for coordination, fundraising and administration.”

At the very least, current baseline data are required for the USFWS to assess the potential impact of gas and oil exploration activities on these species and their habitats. Without baseline studies, monitoring will not be possible to adapt gas and oil exploration activities should unreasonable disturbances occur. As Attachment A suggests, the refuge contains habitat for a number of important state or federal listed species. Inventories and assessment of the habitat condition should be part of the EIS and subsequent CCP process. Federally listed species (e.g., SW willow flycatcher) requires section 7 consultations, including multi-year surveys following the species-specific protocol, as required under the Endangered Species Act.

With this said, we urge the USFWS to conduct an EIS analysis of the potential impacts on habitat fragmentation, landscape connectivity and specific wildlife impacts for all species of concern listed on Attachment A, as well as other species known or with the potential to occur in the refuge. These include population and individual level impacts, impacts to species interactions and short and long-term effects on native species diversity and viability. In significant part, such analysis can be used to reinforce and confirm conclusions reached regarding broader,

landscape scale metrics, or to adopt/revise species specific Standards and Measures as necessary and appropriate.

Lastly, we would like to recommend to USFWS that all biological surveys related to an EA, EIS or CCP for the Baca NWR done by the Colorado Natural Heritage Program, Colorado State University, Ft. Lowell, Colorado. CNHP has extensive experience in the San Luis Valley and is a highly professional, independent institution.

14. Hydrologic Resources

To assist in the attainment of water quality standards in the Baca NWR, the USFWS needs to assess the connectivity between surface and ground water, and between individual groundwater strata. Dr. Jim McCalpin, a geologist specializing in fault-line analysis, recently estimated that there are easily 30 or more layers of aquifer bearing strata extending 14,000 ft. or more below the refuge. While its intrinsic complexity precludes a truly credible understanding of the hydrological system of the San Luis Valley, a basic assessment could assist in identifying opportunities for restoration-based activities and in establishing a framework for monitoring water quality in the long-term. Such a study is needed to ensure that management actions do not harm hydrological connectivity or undermine restoration efforts.

The complexity of the San Luis Valley aquifers and need for more studies have been demonstrated in Colorado legislation HB-1011 and interrelated communication between the aquifers and tributary surface waters decided in Colorado Water Court, AWDI decision, Case # 86-CW-46.

The Negotiated Operations Plan (NOP) between Lexam and USFWS does not acknowledge the communication and complexity between surface and groundwater systems. (See review of Allan Davey Study, AWDI decision and HB-1011). Additional research and analysis is required to understand how drilling 14,000 ft. deep wells through the poorly understood complex layers of strata will impact the springs, seeps, wetlands, temperature, directional flow and other water quality indicators of the surface and confined aquifer. The connectivity between strata and surface waters needs to be understood as much as possible, and acknowledged in an EIS or CCP. In particular, since connectivity is complex and highly variable in the Baca NWR, particularly in the recharge zones where Lexam proposes to drill, Standard and Practices should be established to prohibit any activities that might disturb existing connectivity. Such Standards and Measures should be consistent with a "precautionary principle" basis for managing the Baca NWR.

In protecting *all* of the Baca National Wildlife Refuge's waters, USFWS should promote not only the restoration of native fisheries, but, comprehensively, work to "restore and maintain the chemical, physical and biological integrity of the Nation's waters" (33 U.S.C. § 1251) via, *among other things*, attainment of water quality standards (all components). USFWS needs to also explicitly state a review of surface waters and determine the eligibility of "Outstanding National Resource

Waters” designation by the State of Colorado.

In summary, we believe that given the many unknowns and complexities of the underlying hydrogeology of the refuge, the USFWS should initiate and complete a comprehensive study of the complex hydrogeology structures to 15,000 feet. The confined and unconfined aquifers– must be *protected*.

In common parlance, this is referred to as the “precautionary principle” of conservation biology, which states that precautionary measures should be taken when a certain activity or inactivity threatens to harm human health or the environment, even when science has not fully established cause and effect relationships (Meffe et al. 1994, Noss and Cooperrider 1994). The precautionary principle acknowledges the complexity of dynamic natural systems and the effects of human activities through the common sense principle that it is easier to prevent harm to the land than to attempt to repair it later.

Implementation of a hydrogeology study requires a front-end NEPA analysis of the landscape’s ecosystem structure, function, and integrity at multiple temporal and spatial scales, and an analysis of disturbance regimes. Without such a requisite analysis, the efficacy of any management framework is intrinsically suspect as it invites *post hoc* analysis and can be undermined by agency bureaucratic momentum to proceed with a course of action – even if that course of action is merely a broad management framework that does not itself dictate specific decision or resource commitments. This is because the framework affects agency resource allocations, budget prioritization, selection of possible projects and activities that functions as a ‘lens’ through which all management is viewed.

The above habitat fragmentation and landscape connectivity comments also relate to watershed health and water quality standards. In addition, the USFWS should assess how each management alternative promotes or impairs the achievement of water quality standards promulgated pursuant to the Clean Water Act.

15. Elk Population

The CMP describes the role of hunting as a tool for elk and habitat management and as a priority use on the refuge. Elk constitute the premier terrestrial species on the refuge for both viewing and hunting. From an earlier estimate of 5,000, recent Sand Dunes National Park studies estimate the local elk herd at around 3,000 animals. According to the CMP, the Baca NWR provides both summer and winter range for this year-round resident herd. Elk populations peak during winter months in the refuge, when wet meadow habitats, such as those in the proposed drilling area, provide feed and protection from disturbance and severe winter foraging habitat. Wet meadow and adjacent riparian areas also provide ideal calving grounds during the birthing season.

No elk management guidelines are offered in the CMP. We urge the USFWS to develop a comprehensive, collaborative elk management program through the CCP process. Prior to this, we request that the full range of potential impacts of

drilling activities on herd viability be examined through the NEPA EIS process.

The 2005 CNHP Sovell report recommends the following actions relating to elk:

“the continued viability [of elk and pronghorn] will require maintaining corridors of connectivity between the Baca and public lands to the east, west, and south. Large open areas must also be left undisturbed within the Baca to provide areas for the pronghorn and elk to browse and graze.”

In the Negotiated Operating Plan (NOP) between USFWS and Lexam, drill construction activities are scheduled during the winter months as a means of reducing impacts on wildlife and their habitat. In the case of elk this proposal could be very detrimental. As acknowledged in the CMP, the refuge provides critical winter range to the herd. Winter range is a known limiting factor for elk. These large ungulates are highly sensitive to activity, mechanized vehicles and noise. How will USFWS prevent significant negative impacts on the herd from a 24-hr./day drilling operation over a 5-6 month period during the winter months when elk are struggling to survive?

The effects of roads on elk have been studied extensively. The construction and upgrade of almost 7 miles of roads, and over 360 truck trips, as currently proposed by Lexam, will undoubtedly have a major impact on the movement, habitat effectiveness and use of seasonal and calving habitats by the resident elk herd. Without baseline data, how will USFWS assess these impacts adequately? We maintain that an EIS and CCP level of analysis is necessary to accomplish a thorough assessment of the potential direct, indirect, cumulative and long-term impacts of drilling activities and road construction and use on the refuge elk herd.

16. Invasive Plants

Invasive plants were identified as a primary planning issue in the CMP and recognized as “one of the greatest threats to intact landscapes and a major cause of reduced biodiversity.” Considerable staff time, resources and ingenuity are currently being applied to this important management concern. We urge USFWS to get a CCP in place to guide an overall strategy for controlling invasive plants and identify the needed funding for implementation.

Managing hundreds of transport, construction and operations vehicles, rig equipment and other imported materials that will undoubtedly bring new noxious weeds into the refuge system is an huge undertaking in and of itself. Many invasive plants are highly opportunistic and thrive under conditions of soil disturbance. Extensive ground disturbance from road and well site construction activities could dramatically accelerate the rate of spread and number of problematic species within the refuge thus severely accelerating an already formidable management challenge. How will USFWS assess the potential impacts, devise prevention and mitigation measures and develop effective Standards and Measures to minimize the further invasion of noxious plants? We request that USFWS do everything within its power to initiate a EIS and CCP level analysis that

fully assesses the potential direct, indirect, cumulative and long-term impacts of vehicle use, materials imports, road construction and other disturbance activities on the introduction and long-term management of invasive plants in the refuge.

17. Roads

Roads and other surface disturbances, including the construction of 10-20 acre well pads, can degrade the ecosystem's structure, function, and composition. In so doing, habitat connections across the landscape can be lost, thus threatening the viability and survival of many wildlife species. Understanding habitat fragmentation and landscape connectivity and, by extension, the ecosystem's broader health and integrity, requires a rigorous, science-based analysis of surface disturbance and environmental impacts. Roads, in this context, are arguably the most relevant vectors of ecosystem impacts on the Baca NWR, causing a myriad of impacts including direct loss of habitat, loss of habitat effectiveness through disturbance, habitat fragmentation, siltation, increased water pollution, increased mortality, and increased invasion of non-native plants and animals. Consequently, the USFWS should prepare a spatial analysis of surface disturbance. Such analyses are now affordable and common.

A sixteen-foot wide road directly removes about two acres of habitat per mile of road for all wildlife, but the direct, indirect and cumulative impacts extend far beyond the road right-of-way. Notably, such impacts are not felt solely by big game. Roads impact fish and aquatic organisms through siltation and pollution; small mammals through disturbance, habitat fragmentation, direct mortality and direct habitat loss; and reptiles and birds through disturbance, habitat fragmentation, direct mortality and direct habitat loss.

We urge the USFWS to initiate a rigorous program of study to better understand ecosystem processes, species diversity, distribution and habitat use and other key components required to fully assess the potential impacts of this proposal. We maintain that a full EIS process is needed to inform the development of affective Standards and Measures and alternatives that seek to minimize the many adverse effects of roads.

As stated above, we urge USFWS to prohibit the construction of any new roads and to limit all drilling activities to upland areas along the existing Lexam Road. However, should the construction of new roads be allowed, specific timetables within which such road projects would be completed, with mitigation commitments in the event of funding shortfalls or other failures to comply, established.

18. Wetlands

As previously stated, the refuge supports the largest concentration of irrigated and natural wetlands in the entire Southwest, including over 4,000 acres of National Wetlands Inventory wetlands. Lexam's entire drilling operation; including roads,

drill pads and test drill rigs, is located in the midst of perhaps the most biologically significant and vulnerable area of the refuge.

Lexam's test wells #5 and #6, and the newly proposed well #7, as currently located in or very near extensive wet meadow, playa wetland and riparian habitats. Lexam's proposal calls for the upgrade and new construction of almost seven miles of roads. These roads are nearly all in, or very near sensitive wetland habitats, some comprised of deep clay-bed soils several meters deep.

Wetland habitats support much of the biodiversity of the refuge including the globally imperiled slender spiderflower, amphibians, aquatic invertebrates, elk and pronghorn and many species of migrant water birds including white-faced ibis, eared grebe, pied-billed grebe and sandhill crane, Wilson's phalarope, American avocet, sora, and Virginia rail.

The limited timeframe of this scoping period does not allow for full development of our many concerns about the impacts of locating drilling activities in or near these vital wetlands. In short, the unavoidable direct and indirect impacts of 24-hr./day road and drill pad construction, noise and air pollution, and heavy truck traffic for perhaps a year or longer – are deemed by us to be unacceptable. Use of the most environmentally “friendly” methods and technology available in the industry today will not prevent the unreasonable degradation of these ecologically significant wetlands and the important recharge and watershed protection services that they provide.

We urge the USFWS to give serious consideration to inclusion of an EIS alternative that requires Lexam to locate all drilling activities out of the wetland and riparian areas. Directional drilling can be employed from upland areas along the existing Lexam road to avoid unnecessary degradation of these valuable and sensitive habitats. Furthermore, we request that USFWS can do everything within its power to initiate and complete a CCP before drilling activities are allowed to proceed.

19. Cultural Resources

Given the ancient, continuous and diverse history of human habitation in the area encompassing the Baca NWR and current documentation and understanding of this rich Baca NWR history, it is reasonable to assume that there may in fact be hundreds of potential heritage sites contained within the boundaries of the refuge that deserve express recognition and protection.

Archeological sites function not simply as individual, isolated sites that can be assessed and understood within a vacuum, but as resources irreplaceably woven into the fabric of the entire landscape. These cultural resources date back to the dawn of Civilization in North America. More than 11,500 BP (before the present), the Clovis peoples came into the new world from Asia. These hearty people inhabited the San Luis Valley at a time when the woolly mammoth still lived. Following the Clovis hunters were the Folsom cultures. Other Native American groups have historical roots in the area, including the Ute, Hopi and northern Pueblo Tribes. Consequently, the USFWS should ensure full compliance with its

duties under Section 110 (16 U.S.C. § 470h-2) of the National Historic Preservation Act.

We recommend that Smithsonian Institute National Museum of Natural History archeologists (P. Jodry, etc.), who are most familiar with the cultural resources in the area, be consulted in the development of EIS alternatives and collaborative management of cultural resources through the CCP process.

18. Socioeconomic analysis.

The proposal to allow oil and gas development will unquestionably have socioeconomic impacts – both positive and negative – to the people of the San Luis Valley, in particular the Moffat, Crestone and Baca Grande subdivision communities. In conducting a socioeconomic analysis, we refer the USFWS to a report by the Sonoran Institute entitled “Public Lands Conservation and Economic Well-Being” (www.sonoran.org/programs/propserity.html). This report illustrates that protecting rather than exploiting public lands makes good economic sense. As a general proposition, the Sonoran Institute Report concludes that protected public lands “play an important role in stimulating economic growth – and the more protected the better.”

National Wildlife Refuges are undeniable economic engines in many areas. According to a recent USFWS economic analysis, *Banking on Nature 2004: The Economic Benefits to Local Communities of National Wildlife Refuge Visitation*:

- In FY 2004, more than 36.7 million people visited refuges for recreation. Their spending generated \$1.37 billion of sales in regional economies. As this spending flowed through the economy, nearly 24,000 people were employed and \$453.9 million in employment income was generated.
- About 68 percent of total expenditures are generated by non-consumptive activities on refuges. Fishing accounted for 27 percent and hunting 5 percent. Local residents accounted for 17 percent of expenditures while visitors coming from outside the local area accounted for 83 percent.
- Refuge recreational spending generated about \$150.7 million in tax revenue at the local, county, state and Federal level.
- Surveys show refuge visitors would have been willing to pay more for their visit than it actually cost them. The difference between what they were willing to pay and what they actually paid is their net economic value or consumer surplus. Visitors enjoyed a consumer surplus of more than \$1.1 billion in 2004. Over \$680 million of this amount (63 percent of total net economic value) accrued to non-consumptive visitors.

In these small communities, people and businesses are struggling to survive. The importance of implementing a visitors use program for the Baca NWR, as mandated by the CCP, should not be overlooked, as it will benefit the economies of the surrounding communities enormously.

On the other hand, nobody wants to visit an oil and gas field. The negative impact of Lexam's proposal to drill, and the lost revenues from ecotourism, needs to be fully analyzed in an EIS review process.

20. Air Quality

The NOP fails to include any Standards and Measures designed to promote the purposes of the Clean Air Act and to comply with its provisions. Such Standards and Measures need to be necessarily considered and incorporated into the Environmental Assessment. The vast meadows and grasslands contained in the Baca NWR are vital to reducing human impacts to the atmosphere. The Baca NWR ecosystems are part of the broader regional, national, and global efforts to curb atmospheric degradation should be maintained as important contributors to these efforts.

In addition, we would like to see full consideration and disclosure through an EIS analysis, of the potential impacts on ecosystems, wildlife and human health, of air pollution from diesel trucks and other industrial vehicles, emissions from drill rigs, compressors, the outflow of chemicals, such as ozone into the surrounding environment and any other potential impacts on air quality.

21. Fire Management

The Baca NWR has no comprehensive fire management plan in place nor does it have any fire fighting resources. That was made clear in a recent lightning strike that ignited a grass fire on the refuge. The Baca Grande Volunteer Fire Dept. (BGVFD) responded until Forest Service personnel arrived much later on the scene. Other than stating that "no fires are allowed on the refuge," there is no consideration of emergency fire planning, structurally or on the refuge, in the CMP, NOP or any other know USFWS document.

Local mutual-aid fire departments are not equipped to fight drill rig fires. There exists a continuously vegetated landscape between the drilling sites and the inhabited community. How will the drill rig fires be put out? Where will the water come from? Where will the trucks and fire fighters come from? If a wildfire starts, will there be time to evacuate community members safely from the single road that goes into and out of the town of Crestone and Baca Grande subdivision?

As of February 26, 2007 there was no attempt made by Lexam or USFWS to contact the Property Owners Association, County, Town of Crestone or Departments of Health to engage the agencies regarding regulatory processes,

evacuation plans or other emergency preparedness issues related to potential drilling related fires the Baca NWR.

SLVEC and CBLT recommend that USFWS engage in a coordinated effort to plan for fire and other potential emergency situations such as chemical spills, vehicle accidents and other unforeseen disasters related to the proposed Lexam drilling operations. Such emergency planning efforts need to be coordinated with local, state and federal regulatory Agencies.

22. Scenic integrity

The USFWS should emphasize that scenic integrity is used as an indicator of ecological health and integrity. The Sense of Place values of the Crestone/Baca Spiritual communities who literally gaze down upon the Baca NWR, are highly dependent upon the maintenance of an esthetic and unhindered view shed. Protection of scenic integrity is a fundamental value for these communities who reside here largely due to the beauty and natural integrity of the area. We request that development of an EIS be initiated in close collaboration with the Crestone Spiritual Alliance, to monitor and prevent degradation of the spectacular view shed that currently characterizes the Baca NWR.

23. Natural Solitude & Quiet

The exceptional natural solitude and quiet, underpin the high quality of many of the other resources and values in the Baca NWR, most notably wildlife, ecosystem health and integrity. Put simply, the noise pollution generated from the extensive 24-hr./day, 6 -12 month drilling operation will inevitable degrade the Baca NWR resources and values, disturb daily and seasonal wildlife rhythms, foraging patterns, nesting and hibernation behavior and disturb the qualities of solitude and quietude of the surrounding area. We request that impacts of noise pollution on wildlife survivability, human health and the continued viability of the retreat center based economy be thoroughly considered and alternatives developed to minimize noise pollution through an EIS evaluation process and completion of a CCP.

24. Build-out Scenarios

Should Lexam be successful in finding significant gas or oil reserves, its currently permitted wells are allowed to go automatically into production. This changes the entire context and scale of impacts of drilling in the Baca NWR. We urge the USFWS to give full consideration to various build-out scenarios in a comprehensive EIS analysis. All aspects of industrial-scale expansion must be considered including the potential direct, indirect, cumulative and short and long-term impacts on the ecological and biological (wetlands, riparian, wildlife, hydrology), cultural and socioeconomic (human health, economic and Sense of Place) values of the Baca NWR and affected communities.

25. Monitoring

We urge the USFWS to authorize a community monitoring team to oversee all Lexam activities in the Baca NWR and provide the additional oversight that is needed to insure compliance of all Standards and Measures. The cost of training, equipment and other resources to support the community monitoring team should be included in the Lexam operations budget.

26. Conclusion

The current and ongoing Lexam and USFWS proposals regarding mineral development on the Baca NWR are “significant” and require a full analysis in an Environmental Impact Statement with sufficient scope, range of alternatives, and impacts analysis to address the concerns raised in these comments and the comments of the general public. Due to the limited time provided by the USFWS to prepare our scoping comments, a full list of citations and references will be provided as an addendum to this document. We also look forward to the continued cooperative working relationship with USFWS and are willing to provide the USFWS with needed information about the San Luis Valley or the Baca NWR based on the extensive knowledge and experience possessed by our organizations and members.

Please feel free to contact us if you have any questions or difficulty regarding the filing of these comments. Thank you for considering our concerns.

Sincerely,



Ceal Smith
Crestone Baca Land Trust



Christine Canaly
San Luis Valley Ecosystem Council

ATTACHMENT A

State and federal rare, threatened and endangered species with the potential to occur in the Baca National Wildlife Refuge, San Luis Valley, Colorado

| COMMON NAME | SCIENTIFIC NAME | CDW Status | Global/ State Rank |
|----------------------------------|---|------------|--------------------|
| AMPHIBIANS & REPTILES | | | |
| Northern Leopard Frog | <i>Rana pipiens</i> | SC | G5/S3 |
| Tiger salamander | <i>Ambystoma tigrinum</i> | | G5/S5 |
| Chorus frog | <i>Pseudacris triseriata</i> | | G5/S5 |
| BIRDS | | | |
| Bald eagle | <i>Haliaeetus leucocephalus</i> | FT, ST | |
| Greater sandhill crane | <i>Grus canadensis tabida</i> | SC | |
| Mountain plover | <i>Charadrius montanus</i> | SC | |
| Southwestern willow flycatcher | <i>Empidonax traillii extimus</i> | FE, SE | |
| Yellow-bellied cuckoo | <i>Coccyzus americanus occidentalis</i> | SC | G5T3Q/SNA |
| Wilson's phalarope | <i>Phalaropus tricolor</i> | | G5/S4B, SZN |
| Sage sparrow | <i>Amphispiza belli</i> | | G5/S3B |
| Golden eagle | <i>Aquila cheysacros</i> | | G5/S3S4B |
| Snowy egret | <i>Egretta thula</i> | | G5/S2B |
| Black-necked stilt | <i>Himantopus mexicanus</i> | | G5/S3B |
| White-faced ibis | <i>Plegadis chihi</i> | | G5/S2 |
| Short-eared owl | <i>Asio flammeus</i> | | G5/S3B |
| BEETLES & CRICKETS | | | |
| Giant flower beetle | <i>Amblyderus triplehorni</i> | | G1/S1 |
| Ant-like flower beetle | <i>Amblyderus werneri</i> | | G1/S1 |
| Great Sand Dunes tiger beetle | <i>Cicindela theatina</i> | | G1/S1 |
| Circus beetle | <i>Eleodes hirtipennis</i> | | G1?S1 |
| Histerid beetle | <i>Hypocaccus undesc. sp</i> | | G1/S1 |
| Giant sand treader camel cricket | <i>Daihinibaenetes giganteus</i> | | G3?S1 |
| BUTTERFLIES | | | |
| Colorado Blue | <i>Euphilotes rita coloradensis</i> | | G3/G4/T2/T3/S2 |
| Rhesus skipper | <i>Polites rhesus</i> | | G4/S2/S3 |
| San Luis sandhill skipper | <i>Polites sabuleti ministigma</i> | | G5/T3/S3 |
| Sandhill fritillary | <i>Boloria selene sabulicollis</i> | | G5T2/S1/S2 |
| Simius roasside skipper | <i>Amblyscirtes simius</i> | | G4/S3 |

| COMMON NAME | SCIENTIFIC NAME | CDW Status | Global/ State Rank |
|-------------|-----------------|------------|--------------------|
|-------------|-----------------|------------|--------------------|

DRAGONFLIES, DAMSELFLIES & ROBBERFLIES

| | | | |
|---------------------------------------|-----------------------------|--|-------|
| Hoary skimmer | <i>Libellula nodisticta</i> | | G4/S1 |
| Sand Dune Robber Fly (undescribed) | <i>Proctacanthus n.sp.</i> | | G1/S1 |

FISH

| | | | |
|------------------|----------------------------|----|--------|
| Rio Grande chub | <i>Gila pandora</i> | SC | G3/S1 |
| Rio Grand sucker | <i>Catostomus plebeius</i> | SE | G3/G4S |

MAMMALS

| | | | |
|--|---|--|---------|
| Plains pocket mouse subspecies | <i>Perognathus flavescens relictus</i> | | G5T/2S2 |
| Silky pocket mouse subspecies | <i>Perognathus flavus sanluisi</i> | | G5T/3S3 |
| Thirteen-lined ground squirrel subspecies | <i>Spermophilus tridecemlineatus blanca</i> | | G5T/3S3 |
| Brazilian free-tailed bat | <i>Tadarida brasiliensis</i> | | G5/S1 |
| Northern pocket gopher subspecies | <i>Thomomys talpoides agrestis</i> | | G5T3/S3 |

PLANTS

| | | | |
|----------------------|---------------------------|----------------|-----------|
| Slender Spiderflower | <i>Cleome multicaulis</i> | (C2), S-BLM | G2G3/S2S3 |
|----------------------|---------------------------|----------------|-----------|

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