



April 28, 2008

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**Re: NV063-EA08-32: Environmental Assessment for Oil and Gas Leasing within the Western Portion of the Shoshone-Eureka Planning Area**

Dear Ms. Mallory:

Thank you for the opportunity to comment on the Environmental Assessment for Oil and Gas Leasing within the Western Portion of the Shoshone-Eureka Planning Area (EA). On behalf of the Center for Biological Diversity (Center), we offer the following comments.

The Center is a national, non-profit conservation organization with over 40,000 members including many members in Nevada. The Center works through science, law, and creative media to secure a future for all species, great or small, hovering on the brink of extinction. The primary goal of the Center's Climate, Air, and Energy Program is to reduce United States greenhouse gases and other harmful air pollutants in order to protect biological diversity, public health, and the environment. The Center's Public Lands Program watchdogs activities that do harm to species and their habitat on lands held in trust for the common good, including mining and drilling for metals and fossil fuels, and works to stop environmentally destructive projects and ensure that the nation's public lands are managed with minimal damage.

Because the EA fails to analyze significant direct, indirect and cumulative environmental effects associated with oil and gas drilling, the EA must be withdrawn and a full environmental impact statement (EIS) prepared as required by the National Environmental Policy Act, 42 U.S.C. §§4331 et seq. ("NEPA").

The EA violates NEPA by failing to: (1) disclose, analyze, and otherwise take into account the greenhouse gas emissions that will result from the proposed oil and gas development; (2) adequately disclose, analyze, mitigate and take into account the impacts of the proposed action, and the cumulative effects of similar actions on public lands, ecological resources and special status species such as species protected under the Endangered Species Act, 16 U.S.C. § 1531, et seq.; and (3) consider a reasonable range of alternatives, including a no

leasing or reduced leasing alternative. Further, because the proposed oil and gas leasing will have significant effects on the human environment, an EIS is required.

I. THE EA FAILS TO ANALYZE GREENHOUSE GAS EMISSIONS ASSOCIATED WITH OIL AND GAS DEVELOPMENT AND CONSUMPTION.

The BLM failed to consider the greenhouse gas emissions that would result from the project as required by NEPA. The EA must analyze all phases of the project, including production and the combustion of the fossil fuels to be produced. Failure to conduct this analysis is arbitrary, capricious, and contrary to the express mandates of NEPA.

NEPA is the “basic national charter for protection of the environment.” 40 C.F.R. § 1500.1(a). Congress passed NEPA in 1969, casting the statute as a landmark national effort to “encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation.” 42 U.S.C. § 4321.

To accomplish these goals, all federal agencies must assess the environmental impacts of their proposals before taking any action on them. Like an environmental impact statement, an environmental analysis is at the heart of NEPA, and must provide a “full and fair discussion” of impacts like greenhouse gas emissions and global warming implications, fully informing “decisionmakers and the public of the reasonable alternatives which would avoid or minimize” these impacts. 40 C.F.R. § 1502.1.

The purpose of the NEPA review process is two-fold: “First, it places upon [the action] agency the obligation to consider every significant aspect of the environmental impact of a proposed action. Second, it ensures that the agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process.” Kern v. United States Bureau of Land Management, 284 F.3d 1062, 1066 (9th Cir. 2002) (emphasis added). See also Columbia Basin Protection Ass’n v. Schlesinger, 643 F.2d 585, 592 (9th Cir. 1981) (“[T]he preparation of an EIS ensures that other officials, Congress and the public can evaluate the environmental consequences independently.”)

These dual objectives require that environmental information be disseminated “early enough so that it can serve practically as an important contribution to the decisionmaking and will not be used to rationalize or justify decisions already made.” 40 C.F.R. § 1502.5. See also Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 371 (1989) (“the broad dissemination mandated by NEPA permits the public and other government agencies to react to the effects of a proposed action at a meaningful time”); Metcalf v. Daley, 214 F.3d 1135, 1143-44 (9th Cir. 2000). Ultimately, an EIS does not satisfy NEPA unless “its form, content, and

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preparation substantially (1) provide decision-makers with an environmental disclosure sufficiently detailed to aid in the substantive decision whether to proceed with the project in light of its environmental consequences, and (2) make available to the public, information of the proposed project's environmental impacts and encourage participation in the development of that information.” Trout Unlimited v. Morton, 509 F.2d 1276, 1283 (9th Cir. 1974).

The EA fails to adequately analyze how oil and gas development will contribute to an increase in greenhouse gas emissions and how this increase will contribute to global climate change and adversely affect ecosystems and species. In fact, the EA makes no mention of the greenhouse gas emissions associated with the consumption of oil and gas developed within the assessment area whatsoever.

By ignoring the effects of greenhouse gas emissions on the environment, the BLM has failed to completely consider a critical aspect of the problem, rendering each and every section of the EA incomplete and inadequate. The EA should have discussed the significant direct and cumulative contribution to global warming from oil and gas development on 1.7 million acres of public land. Its failure to do so is an egregious violation of NEPA.

Laying bare the true impacts and costs of the direct and cumulative greenhouse gas emissions from oil and gas leasing, and disclosing alternatives and mitigation measures, would very likely lead to increased energy conservation and use of renewable energy sources. The BLM prevented this result by producing a EA that completely ignores the greenhouse gas emissions associated with the oil and gas development and consumption. As explained further below, this error has infected every aspect of the decisionmaking process. The BLM must prepare a new environmental document that properly considers the potential greenhouse gas and global warming implications of the oil and gas leasing, prior to issuing oil and gas leases within the assessment area.

A. The EA Fails to Discuss the Role of Greenhouse Gas Emissions in Causing Global Climate Change.

The EA fails to disclose—or even mention—pertinent information on greenhouse gas emissions and their known net impacts on global climate change.

The International Panel on Climate Change has stated that the evidence for global warming is “unequivocal” and predicts that the globally averaged surface temperature will increase by 1.1 to 6.4° C with a sea level will rise of 18 and 60 cm by the end of this century. (Alley et al. 2007). The more greenhouse gases are emitted into the atmosphere, the more warming will occur, and it is very likely that the changes in the global climate system as a result would be larger and more pronounced than the ones already observed. (See Alley et al. 2007). This warming is in addition to the warming already “in the pipeline” (Hansen et al. 2005).

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Because anthropogenic greenhouse gas emissions have altered the energy balance of the earth by  $0.85 \pm 0.15$  watts per square meter and because of the lag time in the climate system, as of 2005 the Earth was already committed to at least  $.6^{\circ}\text{C}$  ( $1^{\circ}\text{F}$ ) of additional warming even absent additional greenhouse gas emissions (Hansen et al. 2005).

The EA ignores scientists' ability to predict future changes from continued greenhouse gas emissions. For example, scientists are able to tell us, with a high degree of certainty, that additional warming of more than  $1^{\circ}\text{C}$  ( $1.8^{\circ}\text{F}$ ) above year 2000 levels will constitute "dangerous climate change," with particular reference to sea level rise and species extinction (Hansen 2006, Hansen et al. 2006a, b, American Geophysical Union 2007). This is because warming of greater than  $1^{\circ}\text{C}$  may induce positive climate feedbacks, such as the release of large amounts of methane from thawing arctic permafrost, that will further amplify the warming (Hansen 2006; Hansen et al. 2006a,b).

Several types of greenhouse gases cause this threatening warming, and the EA must assess and disclose all of the greenhouse gas emissions the project will likely produce. Furthermore, this analysis must include an evaluation of the emissions that will result from all phases of the projects, from construction of the lease sites, to the production of the fuel, to the combustion of the fuel eventually produced.

**B. The EA Improperly Fails to Assess the Greenhouse Gas Emissions Associated with Oil and Gas Consumption.**

The EA ignores the most obvious component of the project's greenhouse gas emissions—the combustion of the fuel produced for energy. This is obviously a foreseeable result of any program permitting the commercial production of oil and gas, yet the EA makes no mention of the amount of oil and gas expected to be produced or the emissions associated with the consumption of that oil and gas.

The greenhouse gas emissions from the volume of fossil fuels anticipated to be produced will be on the order of billions of tons of carbon dioxide. This will be a highly significant contribution to global warming and the EA must analyze its environmental impact.

The EA also fails to consider other project sources of greenhouse gas emissions as well, including but not limited to emissions from the construction of the facilities and infrastructure support, transportation of the oil product to refineries, increases in housing developments and energy consumption by the influx of new employees to the region, refining of the product, and increased traffic from the population growth.

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1. The EA Must Assess Carbon Dioxide Emissions.

Carbon dioxide is one of the most important greenhouse gases and tends to stay in the atmosphere for centuries (Archer 2005). The IPCC found that emission rates of carbon dioxide have grown by 80 percent from 1970 to 2004 and that the 2005 atmospheric concentration of carbon dioxide at 379 parts per million greatly exceeded the natural range over the last 650,000 years (Bernstein et al. 2007). The rise of carbon dioxide emissions in the air is commensurate with the rise of global temperatures.

Scientists have described the atmospheric carbon dioxide ceiling that must not be exceeded in order to avoid a dangerous rise in temperatures. Previously, scientists have described this “ceiling” as approximately 450 parts per million (ppm) of carbon dioxide, and have warned that this may need to be adjusted downwards (Hansen 2006, Hansen 2006a,b). Recently, Dr. James Hansen has stated that the limit will need to be revised downward to 350 ppm (McKibben 2007). We are already well past that ceiling at 383 ppm (McKibben 2007).

It is possible to slow and then reverse the increase in carbon dioxide emissions concentrations by slashing anthropogenic emissions, improving land use, and utilizing alternative energy sources. See, e.g. Hansen 2006, Hansen et al. 2006a,b; Hansen and Sato 2004. However, the necessary measures have not yet been implemented, and carbon dioxide emissions have continued to increase by 2 percent per year since 2000 (Hansen 2006; Hansen et al. 2006a,b). If this growth continues, the 35 percent increase in carbon dioxide emission between 2000 and 2015 will make it impossible to get below even the previously identified ceiling of 450 ppm (Hansen 2006; Hansen et al. 2006a,b).

2. The EA Must Assess Methane Emissions Resulting from the Project.

Methane is the most important of the non-CO<sub>2</sub> pollutants, with a global warming potential 21 times greater than carbon dioxide, and an atmospheric lifetime of 12 years (Forster and Ramaswamy 2007). Methane constitutes approximately 20% of the anthropogenic greenhouse effect globally, the largest contribution of the non-CO<sub>2</sub> gases. As a precursor to tropospheric ozone, methane emissions have an even more powerful impact on climate. In the Arctic, which is already struggling in the face of global warming, this impact is strongest in winter months, which can result in an acceleration of the onset of spring melt (Shindell 2007). Tropospheric ozone, unlike other greenhouse gases, absorbs both infrared radiation and shortwave radiation (visible light). Thus, tropospheric ozone is a particularly powerful greenhouse gas over highly reflective surfaces like the Arctic, because it traps shortwave radiation both as it enters the Earth’s atmosphere from the sun and when it is reflected back out again by snow and ice. Reducing global methane emissions will reduce ozone concentrations in the sensitive Arctic and elsewhere.

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3. The EA Must Assess Black Carbon or Soot Resulting from the Project.

Black carbon, or soot, consists of particles or aerosols released through the inefficient burning of fossil fuels, biofuels, and biomass (Quinn et al. 2007). Black carbon warms the atmosphere, but it is a solid, not a gas. Unlike greenhouse gases, which warm the atmosphere by absorbing longwave infra-red radiation, soot has a warming impact because it absorbs shortwave radiation, or visible light (Chameides and Bergin 2002). Black carbon is an extremely powerful greenhouse pollutant. Scientists have described the average global warming potential of black carbon as about 500 times that of carbon dioxide over a 100 year period (Hansen et al. 2007; *see also* Reddy and Boucher 2007). This powerful warming impact is remarkable given that black carbon remains in the atmosphere for only about four to seven days, with a mean residence time of 5.3 days (Reddy and Boucher 2007).

Black carbon presents a particularly troubling problem for the Arctic. It contributes to warming in this region through the formation of “Arctic haze” and through deposition on snow and ice which increases heat absorption (Quinn et al. 2007; Reddy and Boucher 2007). Arctic haze results from a number of aerosols in addition to black carbon, including sulfate and nitrate (Quinn et al. 2007). The effects of Arctic haze may be to either increase or decrease warming, but when the haze contains high amounts of soot, it absorbs incoming solar radiation and leads to heating (Quinn et al. 2007).

Soot also contributes to heating when it is deposited on snow because it reduces reflectivity of the white snow and instead tends to absorb radiation. A recent study indicates that the direct warming effect of black carbon on snow can be three times as strong as that due to carbon dioxide during springtime in the Arctic (Flanner 2007). Black carbon emissions that occur in or near the Arctic contribute the most to the melting of the far north (Reddy and Boucher 2007; Quinn et al. 2007).

Black carbon is a significant contributor to global climate change, and, like methane and carbon dioxide, its emissions must be reduced to curb future warming of the earth.

4. The EA Must Assess Nitrous Oxide and All Other Greenhouse Gas Pollutants.

Nitrous oxide has a global warming potential 310 times that of carbon dioxide and an atmospheric lifetime of approximately 114 years (Forster and Ramaswamy 2007). It constitutes the second largest proportion of anthropogenic non-CO<sub>2</sub> gases at 7%. The main sources of nitrous oxide emissions are agriculture, wastewater, fossil fuel combustion, and industrial adipic and nitric acid production. As discussed further below, because the fuel eventually produced will also be burned by consumers, the project will likely lead to an increase in nitrous oxide

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emissions. The BLM must explore these emissions in its EA. The BLM must also discuss any other greenhouse gas pollutants that may result from the proposed project.

In sum, the science concerning greenhouse gases and global warming is advanced and makes clear that we must stop the growth of greenhouse gas emissions, and then rapidly reduce overall emissions to a very small fraction of current levels. Without analyzing the greenhouse gas emissions from the proposal within the overall context of the climate crisis we are facing, the BLM cannot comply with its legal obligations to fully analyze and disclose the unacceptable impact the commercial leasing program will have on the environment.

C. The EA Fails to Analyze the Cumulative Impacts of Oil and Gas Development on Global Climate Change.

The EA analysis is also defective because they fail to address the cumulative impacts a commercial leasing program will have on global climate change. NEPA's cumulative impacts analysis requirement was added to address problems like greenhouse gas emissions that may appear individually insignificant, but cumulatively create a serious environmental problem. Given the available information on the greenhouse gas emissions associated with oil and gas consumption, as well as the scientific literature on greenhouse gas emissions' contribution to global climate change and the adverse impacts on ecosystems and species worldwide, it is "reasonable to anticipate a cumulatively significant impact on the environment" from a commercial leasing program. 40 C.F.R. § 1508.27(b)(7); see also Center for Biological Diversity v. National Highway Traffic Safety Administration, 508 F.3d 508, 549 (9<sup>th</sup> Cir. 2007). Indeed, it is difficult to imagine a more important cumulative impact analysis than that for oil and gas production.

The EA fails to evaluate the "incremental impact" the project will have on climate change. It ignores how the greenhouse gas emissions resulting from the combustion of oil and gas once it's introduced into the market will impact climate change and the environment more generally when considered in light of other past, present, and reasonably foreseeable actions. See CBD v. NHTSA, 508 F.3d at 549.

The BLM cannot attempt to avoid addressing this cumulative impact by breaking the leasing program down into small parts and requiring individual site-specific environmental reviews. See 40 C.F.R. § 1508.27(b)(7). Instead, the agency must address these cumulative impacts at the programmatic level. The American public and our decisionmakers are entitled to understand the impacts that result from the greenhouse gas emissions of our fossil fuel use. The EA should have disclosed and analyzed the greenhouse gas emissions from past, proposed and estimated future production. It also should also have examined other major sources of greenhouse gas emissions to provide an adequate overall description of cumulative impacts. The EA fails to do so.

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1. The EA Fails to Analyze Greenhouse Gas Emissions' Threat to Ecosystems and Endangered Species.

As discussed above, the dangerous consequences of continued “business as usual” greenhouse gas emissions are all too foreseeable. Global warming is already profoundly changing our planet, representing the most significant and pervasive threat to biodiversity worldwide and affecting both terrestrial and marine species from the tropics to the poles.

The IPCC report recognizes this, finding that the resilience of several ecosystems is likely to be overcome this century by a dangerous brew of climate change, associated disturbances, such as flooding, drought, wildfire, insects and ocean acidification, and other environmental drivers like pollution and over-exploitation of resources (Bernstein et al. 2007). Along with increases in global average temperatures beyond 1.5-2.5° C and accompanying increased levels of atmospheric carbon dioxide concentrations will come major changes in ecosystem structure and function, species’ ecological interactions, and species’ geographical ranges (Bernstein et al. 2007). In fact, global warming has already resulted in the extinction of at least dozens of species (Pounds et al. 2006). Absent major reductions in greenhouse gas emissions, by the middle of this century upwards of 35 percent of the earth’s species will be extinct or committed to extinction as a result of global warming (Thomas et al. 2004).

Other scientific reports have reached the same conclusion as the IPCC that anthropogenic warming has had a recognizable influence on biological systems (Adger et al. 2007). In a study published in *Nature* in 2003, the authors reported a “globally coherent fingerprint of climate change impacts across natural systems” (Parmesan and Yohe 2003). In documenting this “fingerprint” of global warming on ecosystems, scientists have predicted three categories of measurable impacts from recent warming: (1) earlier timing of spring events and later autumn events (i.e. changes in “phenology”), (2) extension of species’ range poleward or upward in elevation, and (3) a decline in species adapted to cold temperatures and an increase in species adapted to warm temperatures (Parmesan and Galbraith 2003).

In the abstract, changes in phenology, distribution, or even an abundance of a species may not by themselves be harmful to the species’ long-term persistence. But if such changes put essential life history traits of the species out of sync with other components of the ecosystem, or if natural or anthropogenic barriers prevent poleward or upward migration, the consequences can be catastrophic.

The Edith’s checkerspot butterfly (*Euphydryas editha*) and the American pika (*Ochotona princeps*), two North American species, demonstrate such deleterious effects of global warming.

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The Edith's checkerspot butterfly is one of the first species for which scientists documented a clear range shift due to global warming. The butterfly's range has moved both northward and upward in elevation in response to a 0.72° C increase in regional warming (Parmesan and Yohe 2003). The range shift was not due to butterfly populations actually moving, but instead to a higher proportion of population extinctions in the southern and lowland portions of the range (Parmesan and Yohe 2003). These population extinctions are the result of the fact that the species' host plant, *Plantago erecta*, now develops earlier in the spring, while the butterfly's caterpillars continue to hatch at the same time (Parmesan and Yohe 2003). As a result, the caterpillars now hatch on plants that have already completed their lifecycle and dried up, instead of on younger edible plants (Parmesan and Yohe 2003). The tiny checkerspot caterpillars are unable to move far enough to find other food and, as a result, starve to death (Parmesan and Yohe 2003).

Another animal struggling under the heavy hand of climate change is the American pika. This small mammal, a relative of the rabbit, is adapted to life in talus piles on high, treeless mountain peaks. Fossil evidence demonstrates that pikas once ranged widely over North America, but their range has contracted to a dwindling number of isolated peaks during the warm periods of the last 12,000 years (Krajick 2004). Pikas are limited by their metabolic adaptation to their cold habitat niche (Krajick 2004). Hence, while more mobile alpine species such as birds may be able to shift their ranges poleward as warming temperatures and advancing treelines, competitors, and predators impact their mountain habitat, pikas are generally incapable of such long range dispersal (Krajick 2004). Rather, they can only migrate upslope as the climate warms (Krajick 2004). In large portions of its range, however, the American pika is already occupying the highest elevation talus habitats that exist on a given mountain range; in such cases there is no upslope habitat to migrate to, and the mountain's population will ultimately disappear as the climate continues to warm. Already, at least 9 of 25 (36%) of pika populations found in the Great Basin have been extirpated and the pika range has shifted upslope by 900 feet in this region. This small creature may well become one of global warming's first victims.

Species like the checkerspot butterfly and American pika demonstrate how climate change brought about by global warming will influence the earth's biodiversity as various species struggle to adapt to their changing habitats. Likewise, sensitive ecosystems, some literally melting under the impacts of global warming, have provided even more evidence of the dire consequence global warming will have on the earth's biological balance.

The Arctic has experienced the effects of global warming earlier and more intensely than any other area on the planet. Over the past 100 years, average Arctic temperatures increased at almost twice the global average rate (Alley et al. 2007). Specifically, in parts of Alaska and western Canada, winter temperatures have increased by as much as 3.5° C in the past 30 years (Rozenzweig et al. 2007). Over the next 100 years, under a moderate emissions scenario, annual

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average temperatures in the Arctic are projected to rise an additional 3-5° C over land and up to 7° C over the oceans (Meehl et al. 2007).

This rapid warming of the Arctic is reflected in the devastating melt of the Arctic sea ice, which is highly sensitive to temperature changes. In 2007, summer sea-ice extent reached an unpredicted and utterly stunning new record minimum (Stroeve et al. 2008). At 1.63 million square miles, the minimum sea-ice extent on September 16, 2007 was about one million square miles (equal to the area of Alaska and Texas combined) below the average minimum sea ice extent between 1979 and 2000 and 50 percent lower than conditions in the 1950s to the 1970s (Stroeve et al. 2008; National Snow and Ice Data Center (NSIDC) 2007a Arctic Sea Ice News Fall 2007 available at [http://www.nsidc.org/news/press/2007\\_seaiceminimum/20070810\\_index.html](http://www.nsidc.org/news/press/2007_seaiceminimum/20070810_index.html)). This minimum was lower than the sea-ice extent most climate models predicted would not be reached until 2050 or later (Stroeve et al. 2008).

This stark reality of global warming in the Arctic is having a disturbing and demonstrated effect on polar bears. One of the most ice-dependent of all Arctic species, polar bears require sea-ice habitat for survival (Regehr et al. 2007, Derocher et al. 2004). For example, polar bears rely on sea ice as a platform from which to hunt ringed seals and other prey, to make seasonal migrations between the sea ice and their terrestrial denning areas, and for other essential behaviors such as mating. As the sea ice rapidly melts away, so, too, does the polar bears' essential habitat.

The scientific projections of future melting of the sea ice are particularly troubling. Under optimistic future emissions scenarios, summer sea ice will decline 50-100 percent by the end of the century (Holland et al. 2006). Under more likely scenarios, however, leading sea ice researchers now believe that the Arctic could be completely ice free in the summer by 2030 (Stroeve et al. 2008) or even by 2012 (Kizzia 2008). Even without a complete disappearance of sea ice, scientists have predicted a cascade of impacts to polar bears from global warming and melting ice that will affect virtually every aspect of the species' existence, including their hunting season and ability to efficiently hunt their ice-dependent prey; female bears' ability to reach their preferred denning areas on land; and increases in bear-human interactions (Derocher et al. 2004).

The combined effects of these global warming consequences on individual bears' reproduction and survival translate into impacts on polar bear populations. Polar bear populations are already declining. The Western Hudson Bay polar bear population has declined by 22 percent since 1987, from 1,194 bears to 935 (Aars et al. 2006). Likewise, the Polar Bear Specialist Group has classified the Southern Beaufort Sea polar bear population as declining (Aars et al. 2006). Within this group of polar bears, researchers have observed starvation, increased drownings, and cannibalism motivated by nutritional stress, a behavior without

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precedent (Regehr et al. 2006; Amstrump et al. 2006; Monnett & Gleason 2006). U.S. Geological Survey biologists, in a landmark series of reports released in September 2007, have concluded that under a business as usual emissions scenario, two-thirds of the world's polar bears will be extirpated by 2050 (Amstrup et al. 2007).

The Center for Biological Diversity petitioned the U.S. Fish and Wildlife Service (“FWS”) to list the polar bear as a threatened species under the Endangered Species Act (“ESA”) due to global warming in February 2005. In December 2006, Secretary of Interior Dirk Kempthorne announced that the polar bear met the criteria for listing as “threatened” under the ESA, and currently, the FWS is preparing a final listing determination of the polar bear. The Arctic has been one of the hardest hit regions in the world by global warming, and, as a result, the species depending on it as a habitat, such as the polar bear, will continue to face dire consequences unless greenhouse gas emissions are rapidly reduced.

Another ecosystem providing scientists with early warning signs of the adverse impacts of global warming on biodiversity is the coral reef ecosystem (Hoegh-Guldberg 1999). An estimated 30 percent of coral reefs globally are already severely degraded and 60 percent may be lost by 2030 (Hughes et al. 2003). The primary cause of coral reef degradation on a global scale is bleaching, the expulsion of symbiotic algal zooxanthellae from coral triggered, inter alia, by elevated sea temperatures (Hoegh-Guldberg 1999). The oceans absorb a large percentage of the extra heat in the climate system due to global warming, and since 1961 the average temperature of the global ocean has increased to depths of at least 3,000 m in some areas (Alley et al. 2007). This warming causes the coral to release algae, which attaches directly to the coral. This leaves the coral white, weakened and more susceptible to death.

In 1998, which at the time was the warmest year on record, bleaching occurred in every ocean, ultimately resulting in the death of 10-16 percent of the world’s living coral (Hoegh-Guldberg 2005). In 2005, which eclipsed 1998 as the warmest year on record, a major bleaching event swept through the Caribbean, bleaching over 90 percent of live coral in some areas and resulting in the ultimate death of about 20 percent of living coral region-wide (Hansen et al. 2006; Federal Response to the 2005 Caribbean Bleaching event, available at [http://coralreefwatch.noaa.gov/caribbean2005/docs/2005\\_bleaching\\_federal\\_response.pdf](http://coralreefwatch.noaa.gov/caribbean2005/docs/2005_bleaching_federal_response.pdf) (last accessed Jan. 29, 2008)). Before this unprecedented single-year die-off even began, the Caribbean contained the world’s most degraded coral reefs, having already lost as much as 80 percent of live coral over the preceding 30 years (Gardner et al. 2003). Thus, it will not take many more episodes like the 2005 bleaching event before living coral reefs in the Caribbean disappear entirely (Hoegh-Guldberg 2005).

Two types of coral—the elkhorn coral (*Acropora palmata*) and staghorn coral (*Acropora cervicornis*)—have already begun to disappear. Because of bleaching caused by warmer waters, these coral have gone from being dominant species to being listed as “threatened” under the

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ESA. For at least the past 3,000 years, these coral were the dominant reef-building corals in the Caribbean (Hughes 1994). Virtually every reef from the Florida Keys, across the Caribbean to the Mesoamerican Reef in Belize, was largely comprised of one or the other (or both) of these formerly ubiquitous species (Hughes 1994). Over the past 30 years, however, the two species have declined by upwards of 90 percent (Hughes 1994). The primary drivers of the decline have been disease and temperature-induced bleaching (Hughes 1994). Additionally, the period of decline coincided with an ongoing period of increased hurricane activity, with intense storms destroying entire reef tracts in certain areas (Precht & Aronson 2004). The cumulative result was that by the beginning of the 21st Century, elkhorn and staghorn corals had been reduced to a scattering of mostly small colonies amidst a large sea of coral rubble.

While coral reefs are threatened by many additional factors, including pollution and direct destruction from dredging and other activities, climate change is an increasingly dominant threat. There is clear evidence that the record-setting ocean temperatures of 1998 and 2005 that triggered widespread bleaching and mortality are the product of global warming (Hansen 2006; Alley et al. 2007). And while the link between coral bleaching and global warming is relatively intuitive, even the outbreaks of coral disease that ravaged the elkhorn and staghorn coral species have been linked to elevated water temperatures (Harvell et al. 2002). Finally, scientific evidence indicates that global warming increases the probability of severe weather events like the series of intense hurricanes that have so impacted Caribbean reefs in recent decades (Santer et al. 2006; Alley et al. 2007).

Carbon dioxide is also dangerously threatening the ocean's chemistry and marine species. At the same time oceans absorb increased heat added to the climate from the burning of greenhouse gases, so, too, do they absorb the increased levels of the most important greenhouse gas—CO<sub>2</sub>. The growth in atmospheric CO<sub>2</sub> concentrations leads to increasing acidification of the ocean, and this acidification only adds to the global warming-induced changes threatening the survival of coral and other important marine species (Alley et al. 2007).

Acidification occurs as a natural result of the ocean's carbonate buffer system. Carbon dioxide that is absorbed by seawater reacts to form carbonic acid, which dissociates to form bicarbonate and releases hydrogen ions, which then bond with carbonate ions to form more bicarbonate. This reaction reduces the amount of carbonate ions and decreases pH. Reduction in carbonate is an important concern because many organisms depend on it to form their shells and skeletons. Thus, as CO<sub>2</sub> enters the oceans' waters, there is a profound impact on the entire marine ecosystem, for ocean acidification severely affects many calcifying species like coral and phytoplankton that play a crucial role in supporting marine life.

A recent comment letter signed by the top 25 marine scientists who study ocean acidification emphasized that the decrease in pH due to un-checked CO<sub>2</sub> emissions will be devastating and irreversible on human time scales (Caldiera 2007). The authors predict that

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without immediate carbon dioxide emissions reductions, pH will decrease by more than 0.2 units by mid-century, and the IPCC estimates that over the 21st century, the ocean's pH level could decrease to as much as 0.35 units (Caldiera 2007; Alley et al. 2007).

Already, the oceans have taken up about 50 percent of the CO<sub>2</sub> that humans have produced since the industrial revolution, and this has lowered the average ocean pH by 0.11 units (Sabine 2004; Alley et al. 2007). Currently, the ocean takes up about 22 million tons of CO<sub>2</sub> each day (Feely 2006). While preindustrial levels of atmospheric CO<sub>2</sub> hovered around 280 ppm, they have now increased to over 380 ppm; if current trends continue, they will increase another 50 percent by 2030 (Orr et al. 2005; Turley 2006). These rising CO<sub>2</sub> levels will take time to reverse even after corrective measures are implemented, and over time, the ocean will absorb up to 90 percent of this CO<sub>2</sub>, greatly affecting the oceans' pH level (Kleypas 2006).

This foretells a stark future for marine life. Due to acidification, within our lifetimes, coral reefs may erode faster than they can rebuild (Feely 2006). Corals are extremely vulnerable to ocean acidification and scientists studying acidification predict that coral reefs will decline in density and diversity unless CO<sub>2</sub> emissions are stabilized at present levels (Hoegh-Guldberg et al. 2007). Under conservative models of future CO<sub>2</sub> emissions, most of the world's coral reefs, already bleaching in the warmer waters, will erode to rubble by the end of the century (Hoegh-Guldberg et al. 2007). Corals provide vital functions for marine ecosystems, and their loss will likely bring grave impacts to the oceans and the species that inhabit them.

Ocean acidification also impacts calcifying plankton species at the base of the marine foodchain. Like coral, plankton also play a vital role in the marine ecosystem. These organisms contribute much of the organic material entering the marine food chain and are responsible for about 50 percent of the earth's primary production (Royal Society 2005). Carbon dioxide uptake by the ocean causes impaired growth and development for calcifying plankton, and acidification dissolves the protective armor of some plankton, limiting their ability to survive. Thus, as the ocean absorbs more CO<sub>2</sub> and pH levels continue to decrease, the marine environment is expected to undergo profound changes due to impacts at many different levels in the food chain.

All this information, which should have been included and analyzed in the EA, demonstrates that global warming is the greatest threat to the future of the earth's plant, animals and ecosystems. Not surprisingly, given the broad suite of impacts we are already experiencing, the projections of future impacts to biological diversity from global warming are grim. The leading study on the quantification of risk to species from climate change, published in 2004 in *Nature*, included over 1,100 species distributed over 20% of the earth's surface area (Thomas et al. 2004). Under a relatively high emissions scenario, 35%, under a medium emissions scenario 24%, and under a relatively low emissions scenario, 18% of the species studied would be committed to extinction by the year 2050 (Thomas et al. 2004). Extrapolating from this study to the Earth as a whole reveals that over a million species may be at risk. It is important to note that

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we are currently on a trajectory to exceed the emissions assumed in the high warming scenario used by Thomas et al. in 2004 (Raupach et al. 2007). The essential message is that we must reduce emissions immediately in order to save many thousands of species and protect the ecosystems upon which we all depend.

Failure to address the project's greenhouse gas emissions and global warming's devastating impacts on the earth's ecosystems and species prevented the BLM from adequately considering how oil and gas production and consumption will cumulatively impact this growing problem. It must address this issue before issuing final regulations regarding a commercial leasing program and before issuing any leases under such a program.

2. The EA Fails to Analyze the Cumulative Impacts Commercial Oil and Gas Development and Consumption will have on Threatened and Endangered Species.

Appendix F lists two species—the bald eagle and Lahontan cutthroat trout—that are protected under the ESA. Yet, curiously, the EA presents absolutely no information on the potential impacts of leasing oil and gas over 1.7 million acres of public land on these species. Instead the EA states that the species are not found in the assessment area. EA at 4-15. Further, the EA presents no information on potential effects to these species from global climate change that will be exacerbated by the oil and gas leasing. The failure to present this information violates NEPA.

The ESA requires federal agencies to consult with the FWS regarding the impacts of proposed federal actions on threatened and endangered species. 16 U.S.C. § 1536(a)(2). Further, as the ESA's implementing regulations make absolutely clear, "[e]ach federal agency shall review its actions *at the earliest possible time*" to determine whether an action may affect protected species, and, if so, to engage in the appropriate level of conferral. 50 C.F.R. § 402.14(a) (emphasis added); see also Wilderness Soc'y v. Wisely, 524 F. Supp. 2d 1285, 1301 (D. Colo. 2007) ("the BLM's duty to confer with the FWS arises as of the time that it was possible for the two agencies to engage in meaningful conference regarding the decision to be made").

Thus, the BLM must consult with the FWS over the impacts to bald eagle and Lahontan cutthroat trout on its proposal to open 1.7 million acres of Federal land to oil and gas leasing, as well as the indirect impacts to these species from the increased greenhouse gas emissions associated with the oil and gas development and consumption. The FWS should already have valuable information about areas that should be off-limits to leasing and development in order to recover imperiled species, and this would come to light during consultation. BLM's failure to initiate consultation with FWS violates the ESA.

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Further, because the oil and gas development will exacerbate global climate change, the BLM must consult with FWS over the impacts that the proposed oil and gas development and consumption will have on other protected species that are threatened by global climate change.

3. The EA Fails to Analyze the Cumulative Impacts Commercial Oil and Gas Development and Consumption will have on Local Water Quality and Quantity.

The EA states that “environmental impacts [on water quality] cannot be determined for individual leases or for exploration and development of production activities.” EA at 4-18. This is because “[e]xisting data describing existing water systems, ground water reservoirs, oil and gas reservoirs, the interrelationships of these systems, or specific exploration, development and production activities are inadequate to determine specific effects of these activities within the Assessment Area.” EA at 4-18. Further, EA omits any analysis of the cumulative impacts of water extraction, stating only that such impacts are “site specific and unknown until a proposal is analyzed.” EA at 4-19. These impacts “do not have an incremental effect on any area in the Assessment Area because the temporary use of water is minimal for a finite period.” EA at 4-19. As described below, this lack of analysis is wholly inadequate to meet the requirement of NEPA to analyze the environmental effects of the proposed action.

The BLM fail to adequately examine how production will directly impact the water supply, it also ignores the cumulative impact the greenhouse gas emissions from the project will have on water resources.

In a recent article published in *Science*, researchers found that an increase in atmospheric greenhouse gases has contributed to a “coming crisis in water supply for the western United States” (Barnett 2008). The research found that between 1950 and 1999, a shift in the character of mountain precipitation occurred, with more winter precipitation falling as rain instead of snow, earlier snow melt, and associated changes in river flow (Barnett 2008). The variants among the “most important metrics of the western hydrological cycle,” include snow pack, the timing of runoff of the major western rivers, and the average January through March temperatures in the mountainous regions of the western U.S. (Barnett 2008). Using several climate models and comparing the results, the researchers found that “warmer temperatures accompany” decreases in snow pack and precipitation and the timing of runoff, impacting river flow and water levels (Barnett 2008). These researchers concluded with high confidence that up to 60 percent of the “climate related trends of river flow, winter air temperature and snow pack between 1950-1999” are human-induced (Barnett 2008). This, the researchers wrote, is “not good news for those living in the western United States.” (Barnett 2008).

The impact greenhouse gas emissions and global warming is having on the western United States’ water resources is a critical consideration that the BLM must analyze in the EA.

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II. THE EA FAILS TO DISCLOSE AND CONSIDER THE INDIRECT, DIRECT, AND CUMULATIVE IMPACTS TO PUBLIC LANDS, SENSITIVE SPECIES AND THEIR HABITAT.

A. The BLM has Failed to Gather Adequate Baseline Data.

NEPA requires the BLM to “describe the environment of the areas to be affected or created by the alternatives under consideration.” 40 C.F.R. § 1502.15. Without establishing baseline conditions, “there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA.” Half Moon Bay Fishermans’ Marketing Ass’n v. Carlucci, 857 F.2d 505, 510 (9th Cir. 1988).

Here, however, the BLM has failed to gather and analyze the baseline data that is necessary in order to fully understand the impacts of the proposed action to species and habitat, thereby foreclosing its ability to comply with NEPA.

The EA lacks basic information about the current status of many species that would be threatened by the proposed action.

The IPCC has come to consensus about several factors relevant to the potential threat of climate change to endemic species, including the following:

- With global average temperature changes of 2°C above pre-industrial levels, many terrestrial, freshwater and marine species (particularly endemics across the globe) are at a far greater risk of extinction than in the recent geological past (medium confidence). Fishlin et. al. 2007 at p. 213.
- Warming and drying trends are likely to induce substantial species-range shifts, and imply a need for migration rates that will exceed the capacity of many endemic species. Id. at p. 226.
- The likely synergistic impacts of climate change and land-use change on endemic species have been widely confirmed. Id. at p. 241.

The EA must be revised to include all of this basic information, so that the environmental consequences of the proposed action may be meaningfully considered. Without establishing these baseline conditions, there is no way for the BLM or the American public to fully understand, at this crucial, programmatic scale, the effects that the proposed action will have on the environment.

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**B. The EA Fails to Take a Hard Look at the Direct, Indirect, and Cumulative Effects of the Proposed Action.**

An EIS must contain a “full and fair discussion of significant impacts, whether direct, indirect, or cumulative.” 40 C.F.R. § 1508.8. As explained below, the EA does not explore a full range of reasonable alternatives and the alternatives presented are not backed by sufficient baseline data to enable a full understanding of the possible environmental impacts. As explained in this section, the EA falls short of a full and fair discussion of the actual impacts that the alternatives would have on ecological resources.

**1. The EA Fails to Take a Hard Look at the Actual Direct, Indirect, and Cumulative Impacts to Ecological Resources.**

The EA fails to analyze the actual, direct and indirect impacts of oil and gas development on paleontological, water, and cultural, as well as ecological resources, which include aquatic resources, plant communities and habitats, wildlife, and threatened and endangered species. The EA instead defers consideration of the actual impacts that could result from the alternatives at this crucial programmatic level to future, site-specific analyses, revealing only that there is the “potential for impacts” but failing to disclose what those impacts could actually be or evaluate what they would mean for these resources.

NEPA defines “direct effects” as those “which are caused by the action and occur at the same time and place.” 40 C.F.R. § 1508.8(a). Indirect effects are those “which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable” and “may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.” *Id.* A “cumulative impact” is the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. § 1508.7.

This may be the only decision point where the agencies consider the cumulative effects of this entire industry—and this is precisely why a programmatic EA must fully consider impacts from this program. Deferring analysis until leases are issued or projects are approved results in a shell game; a piecemeal approach where the BLM may not realize until it is too late that all of the best recovery habitat for an imperiled species has already been sacrificed.

The EA admits that development has the “potential” to destroy or fragment habitat, displace birds and animals, and kill animals and plants. The EA also admits that the proposed

action will involve development—and, hence, impacts—that will last throughout the entire life of the project, *i.e.*, for decades. What the EA does not do is connect these “potential,” long-term impacts to the *actual* impacts to resources that will or could result with any specificity—including ecological resources like wildlife, plant communities, and threatened and endangered species. The EA give short shrift to these impacts at this crucial programmatic level, characterizing them repeatedly as “potential” threats but never documenting what the impacts to specific ecological resources could actually be.

A cumulative impacts analysis must contain a reasoned analysis that includes the rationale behind the decision. Muckleshoot Indian Tribe v. U.S. Forest Service, 177 F.3d 800, 811 (9<sup>th</sup> Cir. 1999) (“While the district court was correct in observing that there are ‘twelve sections entitled cumulative effects,’ these sections merely provide very broad and general statements devoid of specific, reasoned conclusions.”). Mere conclusory statements are insufficient. Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Management, 387 F.3d 989, 993 (9<sup>th</sup> Cir. 2004) (“A proper consideration of the cumulative impacts of a project requires some quantified or detailed information.” (internal quotation marks omitted)). Because the BLM fails to address the cumulative impacts of the proposed oil and gas development, along with the impacts of other past, present, or future projects, the EA is insufficient.

2. The EA Fails to Properly Consider the Cumulative Impacts to Ecological Resources.

Another fundamental analysis that is lacking in the EA is the discussion of cumulative impacts. NEPA’s regulations define a “cumulative impact” as:

the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

40 C.F.R. § 1508.7.

In order for the agency to “consider” cumulative effects, “some quantified or detailed information is required,” since, without it, “neither the courts nor the public, in reviewing the Forest Service’s decisions, can be assured that the Forest Service provided the hard look that it is required to provide.” Neighbors of Cuddy Mountain v. U.S. Forest Service, 137 F.3d 1372, 1379 (9<sup>th</sup> Cir. 1998). General statements about “possible” effects and “some risk” are generally insufficient, and it is not appropriate for the agency “to defer consideration of cumulative impacts to a future date.” Id. at 1380; see also Lands Council v. Forester of Region One of the United States Forest Service, 395 F.3d 1019 (9<sup>th</sup> Cir. 2004) (cumulative impacts analysis

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insufficient where there was “no catalog of past projects,” “no discussion of how those projects (and differences between the projects) have harmed the environment,” only a “vague discussion of the general impact of prior timber harvesting,” and “no discussion of the environmental impact from past projects on an individual basis, which might have informed analysis about alternatives presented for the current project”).

The EA cumulative effects analyses for the alternatives is insufficient because it only vaguely discusses the possible effects of myriad other activities affecting federally listed species and their habitat, and defers more in-depth analysis to a future date. There is no catalog of past projects or discussion of how those projects have harmed the environment. There is only a vague discussion of the general impact of past projects, and no discussion of the environmental impact from past projects on an individual basis, which might have informed analysis about alternatives presented for the current project. These shortcomings render the EA insufficient. See, e.g., Kern v. BLM, 284 F.3d at 1078 (failure to include a cumulative impact analysis of actions within a larger region renders NEPA analysis insufficient).

3. The EA Does Not Discuss the Irreversible or Irretrievable Commitments of Resources That Would be Involved in the Proposal Should it be Implemented.

The EA claims that yet-unknown mitigation measures will reduce or eliminate the “potential” effects to species and habitat. Given the impossibility of developing mitigation measures for impacts that are not even identified, the EA does not—and cannot—assess the likelihood that such measures would actually be appropriate or effective. Similarly, the EA also repeatedly claims that unspecified reclamation measures will restore the affected areas. However, again, given the long-term, severe environmental impacts (which would last for decades), and without more detail about reclamation measures that could possibly restore degraded areas and even altered topography, the inescapable conclusion is that these areas could never be reclaimed, in all likelihood, and species and habitat would likely never be restored.

Accordingly, the BLM should simply concede and disclose candidly that as a result of the proposed action, resources are likely to be lost, and species are likely to go extinct or become severely compromised in the wild and their habitats perhaps forever degraded, and that this result is an irreversible or irretrievable commitments of resources should the proposed action be implemented.

C. The EA Fails to Consider the Cumulative Effects of Oil and Gas Development within the Entire Shoshone-Eureka Planning Area.

An EIS must contain a “full and fair discussion of significant impacts, whether direct, indirect, or cumulative.” 40 C.F.R. § 1508.8. Further, NEPA “prohibit[s] an agency from

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breaking up a large or cumulative project into smaller components in order to avoid designating the project a major federal action' that would be subject to NEPA analysis requirements." Sierra Club v. Bosworth, 510 F.3d 1016, 1028 (9<sup>th</sup> Cir. 2007) (citing Churchill County v. Norton, 276 F.3d 1060, 1076 (9th Cir. 2001) (internal quotation marks omitted)).

The EA covers only the 1.7 million-acre western portion of the 4.5 million-acre Shoshone-Eureka Planning Area. The eastern portion of the Shoshone-Eureka Planning Area covers 2.8 million acres, and was recently analyzed in a separate environmental analysis for oil and gas drilling. (BLM 2007). In neither EA does the BLM explain why the eastern and western portions of the Shoshone-Eureka Planning Area are analyzed separately, and there does not appear to be a rationale for separating the planning area into two portions.

Regardless, the BLM must analyze the cumulative effects of oil and gas development and consumption from the entire planning area—as well as the surrounding landscape—as a part of the Western Shoshone-Eureka EA. This is because the potential greenhouse gas emissions from oil and gas development and consumption from the entire region are significantly greater than emissions from oil and gas developed within the western portion of Shoshone-Eureka alone.

For example, the EA states that the eastern portion of the planning area has “moderate to high potential” because it is located in a geologically similar region to other major production areas. EA at 2-7. According to the EA, exploration in the region has been increasing, with the majority occurring within the eastern portion of the planning area. Id. One well per year has been drilled within the planning area with an average of one in ten wells producing oil. Id. The cumulative effects on global climate change from oil and gas production and consumption within the entire planning area must be analyzed and assessed in the EA.

The surrounding region is also subject to oil and gas exploration and development. The EA reports exploration near Gabbs in Nye County, outside of but in close proximity to, the assessment area. EA at 2-6. The cumulative effects from oil and gas production and development in this vicinity must be described and analyzed within the EA.

Further, oil and gas exploration in Nevada is also increasing since 2000, with 30 wells expected from 2007 to 2009 and 104 of 771 wells drilled as of 2006 producing oil. Id. The cumulative effects of this oil and gas production are significant: overall, Nevada is producing over one thousand barrels of crude oil per day. (EIA 2008). As described above, the cumulative effects of the consumption of this oil will exacerbate global climate change. These cumulative effects must be described and analyzed within the EA.

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### III. THE EA FAILS TO CONSIDER A REASONABLE RANGE OF ALTERNATIVES.

NEPA requires the action agency to identify and analyze alternatives to the proposed action. 42 U.S.C. § 4332(C)(iii). Further, the BLM must consider an evaluation of the no-action alternative. 40 C.F.R. § 1502.41(c). “In order to be adequate, an environmental impact statement must consider...every reasonable alternative.” Citizens for Better Henderson v. Hodel, 768 F.2d 1051, 1058 (9<sup>th</sup> Cir. 1985); Friends of Endangered Species v. Jantzen, 760 F.2d 976, 988 (9<sup>th</sup> Cir. 1985); California v. Block, 690 F.2d 753, 766-67 (9<sup>th</sup> Cir. 1982). “The existence of a viable but unexamined alternative renders an environmental impact statement inadequate.” Hodel, 768 F.2d at 1057; Brooks v. Coleman, 518 F.2d 17, 18 (9<sup>th</sup> Cir. 1975).

#### A. The BLM Failed to Properly Analyze the No Action Alternative.

Under NEPA, the BLM must analyze a no action alternative. 40 C.F.R. § 1502.14(a); American Rivers v. Fed. Energy Regulatory Comm’n, 201 F.3d 1186, 1199 (9<sup>th</sup> Cir. 1999). The EA states at the outset that the no action alternative is inconsistent with the President’s National Energy Policy and Executive Order 13212. EA at 2-1. Even if this were true, it does not give the BLM freedom to disregard the requirements of NEPA.

The EA provides only a cursory description of the environmental effects of the no action alternatives. Purportedly, the no action alternative is “brought forth in the analysis to provide a baseline of comparison with the Proposed Action.” EA at 2-1. In reality, however, the same flaws in the analysis of the proposed action also doom the analysis of the no action alternative.

For example, the BLM fails to analyze the reduced greenhouse gas emissions from not leasing oil and gas from the Western Shoshone-Eureka area. Because the BLM has failed to estimate the amount of oil and gas produced, the agency cannot provide an adequate comparison of greenhouse gas emissions that would be avoided by maintaining the status quo of no additional oil and gas leases within the project area.

#### B. The BLM Failed to Analyze a Reduced Leasing Alternative.

The “heart” of an EIS is the section evaluating the alternatives. 40 C.F.R. § 1502.14. NEPA requires that the action agency use the information and analysis discussed in the sections on the affected environment and the environmental consequences to draft an alternatives section that describes the “environmental impacts of the proposal and the alternatives in comparative form,” “sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.” *Id.* In its alternative analysis, the agency should include those “reasonable alternatives not within the jurisdiction of the lead agency.” *Id.* at 1502.14(c). An agency need not consider every conceivable alternative, only those that are reasonable.

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However, the “existence of a viable but unexamined alternative renders an environmental impact statement inadequate.” Hodel, 768 F.2d at 1057.

The failure to analyze a reduced leasing alternative is inconsistent with the Shoshone-Eureka Resource Management Plan (RMP). Specifically, the RMP requires that the BLM “[a]ssure that mineral exploration, development, and extraction are carried out in such a way as to minimize environmental and other resource damage and to provide, where legally possible, for the rehabilitation of lands.” See EA at 1-7. Further, management decision #4 of the RMP states that “[a]ll areas designated by the BLM as prospectively valuable for oil and gas will be open to leasing except as modified by other resources.” Id. (emphasis added). By failing to even consider reducing the reducing leasing within sensitive species habitat, riparian areas, and other important landscapes, the BLM has failed to

C. The BLM Failed to Analyze an Energy Conservation Alternative.

The BLM must include alternatives that may not be within the lead agency’s jurisdiction, that would accomplish the project’s basic purpose and reduce impacts. Such alternatives were given short shrift. For example, research shows that the energy to be supplied by the proposed project could be obtained through more stringent energy conservation measures. (SWEEP 2007). Such measures would provide the energy at less cost (indeed, most likely at a cost savings) and without the environmental costs. It is nonsensical for the government to promote oil and gas development before all available energy conservation measures have been implemented, yet an energy conservation alternative was not seriously and fully considered.

Such alternatives would, at the least, give decisionmakers an understanding of the costs and benefits between opening public lands for commercial leasing and keeping these lands closed, as well as provide insight into other reasonable energy alternatives that would be more environmentally sound and prudent. This analysis could give Congress an incentive to reconsider oil and gas development and/or enact legislation that addresses the nation’s energy needs without relying on destructive environmental practices that will intensify global warming and the detrimental impacts that come with it. The BLM essentially forecloses this possibility by ignoring its duties under NEPA to do a thorough analysis of the environmental impacts and reasonable alternatives.

IV. BECAUSE OIL AND GAS LEASING WILL SIGNIFICANTLY AFFECT THE HUMAN ENVIRONMENT, AN EIS IS REQUIRED.

An EIS is requires for any federal action that may have a significant effect on the environment. Even “[i]f there is a substantial question whether an action ‘may have a significant effect’ on the environment, then the agency must prepare an Environmental Impact Statement

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(EIS).” CBD v. NHTSA, 508 F.3d at 517-18 (citing Blue Mts. Biodiversity Project v. Blackwood, 161 F.3d 1208, 1212 (9th Cir. 1998) (internal quotation marks omitted).

Whether an action may ‘significantly affect’ the environment requires consideration of ‘context’ and ‘intensity.’. 40 C.F.R. § 1508.27; see also Nat’l Parks & Conservation Ass’n v. Babbitt, 241 F.3d 722, 731 (9th Cir. 2001). ‘Context . . . delimits the scope of the agency’s action, including the interests affected.’ Nat’l Parks & Conservation Ass’n, 241 F.3d at 731. Intensity refers to the ‘severity of impact,’ which includes both beneficial and adverse impacts, ‘[t]he degree to which the proposed action affects public health or safety,’ ‘[t]he degree to which the effects on the quality of the human environment are likely to be highly controversial,’ ‘[t]he degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks,’ and ‘[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts.’ 40 C.F.R. § 1508.27(b)(2), (4), (5), (7).

CBD v. NHTSA, 508 F.3d at 517-18.

As described above, the proposed oil and gas leasing threatens to cause significant effects to the human environment by increasing the severity of global climate change, which is causing devastating impacts to species, wildlife, and habitats. The level of emissions from the consumption of the oil and gas developed within the project area are entirely unknown, because the BLM has failed to provide any analysis of the region’s production potential. Thus, despite their severity, the risks from the project are entirely unknown. These risks are further exacerbated by the cumulative effects of oil and gas leasing in the 2.8-million acre eastern Shoshone-Eureka area. Based on the significant effects of leasing throughout the entire 4.5-million acre region, the BLM must complete an EIS prior to authorizing leasing within the area.

### Conclusion

As discussed above, the EA does not comply with NEPA, and BLM’s failure to consult violates the ESA. Based on the flaws in the EA, we request that the BLM withdraw the document and complete an environmental impact report, and initiate consultation with the FWS prior to authorizing leasing within the 1.7-million acre Western Shoshone-Eureka area.

Thank you for considering these comments.

Sincerely,

Paul Spitler, Esq.

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Bureau of Land Management  
April 28, 2008  
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Public Lands Director





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