BEFORE THE ENVIRONMENTAL APPEALS BOARD UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C.

In Re Deseret Power Electric Cooperative PSD Permit Number OU-0002-04.00	)	PSD Appeal No. 07-03

BRIEF OF AMICUS CURIAE THE CENTER FOR BIOLOGICAL DIVERSITY IN SUPPORT OF THE SIERRA CLUB'S PETITION FOR REVIEW OF PDS PERMIT NUMBER PSD-OU-0002-04.00 ISSUED BY REGION VIII TO DESERT POWER ELECTRIC COOPERATIVE

For the reasons stated below, the Center for Biological Diversity files this amicus brief with the Environmental Appeals Board ("EAB") in support of the Sierra Club's contention that the prevention of significant deterioration ("PSD") permit (number PSD-OU-0002-04.00) issued by Region VIII ("the Region") of the Environmental Protection Agency ("EPA") to Deseret Power Electric Cooperative ("Deseret") for the construction of a new waste-coal-fired electric generating unit at Deseret's Bonanza Power Plant must contain a carbon dioxide ("CO_2") Best Available Control Technology ("BACT") limit.

I. INTRODUCTION

On August 30, 2007, the Region issued a PSD permit to Deseret for the construction of a new waste-coal-fired electric generating unit at the cooperative's Bonanza Power Plant located near Bonanza, Utah. In accordance with 40 C.F.R. § 124.19(a), the Sierra Club filed a petition on October 1, 2007, asking that the EAB review the Region's decision to issue the permit. PDS Appeal No. 07-03. The Region responded to the Sierra Club's petition for review on November 2, 2007. The EAB issued an order granting review of the petition on November 21, 2007. The board limited

its review to whether the Region erred by failing to require a BACT limit for control of CO_2 emissions in its PSD construction permit. The Center for Biological Diversity files this brief in support of the Sierra Club's contention that the Region erred by not including a BACT limit for control of CO_2 emissions in Deseret's PSD permit.

Climate science tells us that human society is standing at the precipice of a global climate change catastrophe. For decades, the industrialized world marched blindly forward, ignorant of the accumulating danger posed by greenhouse gas emissions. We now know differently. We now know unequivocally that the earth is warming; that this warming is bringing about significant changes to the earth's climate; and that this warming is unquestionably due to human activities, namely the burning of fossil fuels that release greenhouse gas emissions like carbon dioxide ("CO_2").

This warming and resulting climate change are having a profound effect on the earth's biological diversity. Species struggle as spring events come earlier; the Arctic is warming at an alarming rate and sea ice is rapidly melting; the oceans are becoming dangerously unstable as they warm and change chemically. Absent major reductions in greenhouse gas emissions, by the middle of the century upwards of 35 percent of the earth's species will either be extinct or committed to extinction because of global warming. It is now clear that continuing "business as usual" emissions will lead us to vast ecological destruction with devastating changes to the planet's biodiversity. Innovative approaches to energy production and consumption and pollution control are needed to change that course.

As a key federal agency with direct regulatory authority over some of the nation's biggest greenhouse gas emitters, the EPA is perfectly positioned to take up this challenge,

and in fact it is legally obligated to do so. EPA has the power to move us off the business as usual emissions trajectory and lead us down a smarter, sounder path. It may not evade its duty to regulate CO_2 emissions, for every measure to avoid releasing more greenhouse gases into the atmosphere counts in preventing catastrophic climate change.

II. INTERESTS OF AMICUS CURIAE

Amicus organization is a nonprofit environmental organization with more than 40,000 members and offices in California, Oregon, Arizona, New Mexico, Vermont and Washington, D.C., dedicated protecting plants and animals and the ecosystems on which they depend. At the Center for Biological Diversity, we believe that the welfare of human beings is deeply linked to nature — to the existence in our world of a vast diversity of wild animals and plants. Because diversity has intrinsic value, and because its loss impoverishes society, we work to secure a future for all species, great and small, hovering on the brink of extinction. We do so through science, law, and policy, with a focus on protecting the lands, waters, and climate that species need to survive. We want those who come after us to inherit a world where the wild is still alive.

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. Similarly, the Center's Oceans Program aims to protect marine life and ocean ecosystems in the United States and international waters. To this end, the Center has petitioned the Fish and Wildlife Service to consider protecting under the Endangered Species Act certain species facing habitat loss as a result of excessive greenhouse gas emission concentrations and global warming, including the polar bear, twelve of the world's penguin species, and several species of

coral. Likewise, the Center has worked at a policy and advocacy level to encourage federal agencies, including the Environmental Protection Agency, to address greenhouse gas emissions under applicable environmental laws such as the Clean Air Act.

III. ARGUMENT

A. THE BURNING OF FOSSIL FUELS IS A PRIMARY FACTOR IN GLOBAL WARMING AND CLIMATE CHANGE:

The basic physics underlying global warming are as well established as any phenomena in the planetary sciences. Greenhouse gases absorb radiation that would otherwise be lost to space and re-radiate it back to the surface of the planet. Greater atmospheric concentrations of greenhouse gases, all other things being equal, cause higher temperatures at the surface of the earth. The Intergovernmental Panel on Climate Change's ("IPCC") "Fourth Assessment Report," released in 2007, is the latest in a series of reports that have become the standard works of reference in the climate change field. This report represented the consensus view of literally hundreds of scientists on numerous key issues including:

(1) Over the last two centuries, it is virtually certain that human activities, such as the burning of fossil fuels, have increased important greenhouse gases, primarily carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_20), in the atmosphere to levels not seen in all of prior human existence.[1] The report concluded that emission rates of CO_2, the "most important anthropogenic greenhouse gas," grew by 80 percent from 1970 to 2004, and its 2005 atmospheric concentration of

[1] Bernstein et al. 2007. [Note: All scientific citations of the sources cited are included at the end of this brief.]

379 parts per million greatly exceeds the natural range over the last 650,000 years.[2]

(2) The average temperature at the surface of the earth has increased by about .74° C over the past 100 years; the average global sea level rose approximately 17 cm; and mountain glaciers and snow cover has declined on average in both hemispheres.[3]

(3) It is practically undisputable that the observed increases in globally-averaged temperatures and, thus, their resulting effects on the climate, are due to the increase in anthropogenic greenhouse gas concentrations.[4]

The report concludes that global warming of the climate is unequivocal and that temperatures will only continue to rise, causing further changes to the earth's climate.[5] To explain the likely future impacts on global warming, the IPCC developed a range of emissions scenarios as the basis for making its predictions. These scenarios assume differing levels of population and economic growth, technological innovation, and other factors, such as better environmental management, that will influence overall greenhouse gas emissions.[6] Based on this range of possible scenarios, and results from the world's leading climate models, the IPCC predicts that the globally averaged surface temperature will increase by 1.1 to 6.4° C and that sea level will rise between 18 and 60 cm by the end of this century.[7] The more greenhouse gases are emitted into the atmosphere, the more

[2] *Id.*
[3] Alley et al. 2007.
[4] Bernstein et al. 2007.
[5] *Id.*
[6] Alley et al. 2007
[7] *Id.*

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.[8]

B. THE RISE IN GLOBAL TEMPERATURES HAS AND WILL CONTINUE TO ALTER THE EARTH'S ECOSYSTEMS:

Global warming and climate change does not act in a vacuum. Global warming is already profoundly changing our planet. Indeed, global warming represents the most significant and pervasive threat to biodiversity worldwide, 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.[9] Along with increases in global average temperatures beyond 1.5-2.5° C and accompanying increased levels of atmospheric CO_2 concentrations will come major changes in ecosystem structure and function, species' ecological interactions, and species' geographical ranges.[10] In fact, global warming has already resulted in the extinction of at least dozens of species.[11] 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.[12]

Other scientific reports have reached the same conclusion as the IPCC that anthropogenic warming has had a recognizable influence on biological systems.[13] In a

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[8] *See id.*
[9] Bernstein et al. 2007.
[10] *Id.*
[11] Pounds et al. 2006.
[12] Thomas et al. 2004.
[13] Adger et al. 2007.

study published in *Nature* in 2003, the authors reported a "globally coherent fingerprint of climate change impacts across natural systems."[14] 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.[15]

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.

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.[16] 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.[17] These population extinctions are the result of the fact that the species' host plant, *Plantago erecta*, now develops earlier in the spring, while the

[14] Parmesan & Yohe 2003.
[15] Parmesan & Galbraith 2004.
[16] Parmesan & Yohe 2003.
[17] *Id.*

butterfly's caterpillars continue to hatch at the same time.[18] As a result, the caterpillars now hatch on plants that have already completed their lifecycle and dried up, instead of on younger edible plants.[19] The tiny checkerspot caterpillars are unable to move far enough to find other food and, as a result, starve to death.[20]

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.[21] Pikas are limited by their metabolic adaptation to their cold habitat niche.[22] 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.[23] Rather, they can only migrate upslope as the climate warms.[24] 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.

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[18] *Id.*
[19] *Id.*
[20] *Id.*
[21] Krajick 2004.
[22] *Id.*
[23] *Id.*
[24] *Id.*

C. SENSITIVE ECOSYSTEMS ARE ALREADY STRUGGLING IN THE FACE OF GLOBAL WARMING:

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.

1. Global warming has caused massive sea ice melts in the Arctic, threatening a sensitive ecosystem and its wildlife:

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.[25] Specifically, in parts of Alaska and western Canada, winter temperatures have increased by as much as 3.5° C in the past 30 years.[26] Over the next 100 years, under a moderate emissions scenario, annual average temperatures in the Arctic are projected to rise an additional 3-5° C over land and up to 7° C over the oceans. [27]

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.[28] 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

[25] Alley et al. 2007.
[26] Rozenzweig et al. 2007.
[27] Meehl et al. 2007.
[28] Stroeve et al. 2008.

minimum sea ice extent between 1979 and 2000 and 50 percent lower than conditions in the 1950s to the 1970s.[29] This minimum was lower than the sea-ice extent most climate models predicted would not be reached until 2050 or later.[30]

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.[31] 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.[32] Under more likely scenarios, however, leading sea ice researchers now believe that the Arctic could be completely ice free in the summer by 2030[33] or even by 2012[34]. 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'

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[29] *Id.*; National Snow and Ice Data Center (NSIDC). 2007a. Arctic Sea Ice News Fall 2007. http://www.nsidc.org/news/press/2007_seaiceminimum/20070810_index.html (last visited October 14, 2007).
[30] Stroeve et al. 2008.
[31] Regehr et al. 2007; Derocher et al. 2004.
[32] Holland et al. 2006.
[33] Stroeve et al. 2008.
[34] Kizzia 2008.

ability to reach their preferred denning areas on land; and increases in bear-human interactions.[35]

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.[36] Likewise, the Polar Bear Specialist Group has classified the Southern Beaufort Sea polar bear population as declining.[37] Within this group of polar bears, researchers have observed starvation, increased drownings, and cannibalism motivated by nutritional stress, a behavior without precedent.[38] 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.[39]

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.

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[35] Derocher et al. 2004.
[36] Aars et al. 2006.
[37] *Id.*
[38] Regehr et al. 2006; Amstrup et al. 2006, Monnett & Gleason 2006.
[39] Amstrup et al. 2007.

2. Global warming is threatening coral reef survival:

Another ecosystem providing scientists with early warning signs of the adverse impacts of global warming on biodiversity is the coral reef ecosystem.[40] An estimated 30 percent of coral reefs globally are already severely degraded and 60 percent may be lost by 2030.[41] 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.[42] 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.[43] This warming cause 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.[44] 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.[45] 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

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[40] Hoegh-Guldberg 1999.
[41] Hughes et al. 2003.
[42] Hoegh-Guldberg 1999.
[43] Allety et al. 2007.
[44] Hoegh-Guldberg 2005.
[45] 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 (last accessed Jan. 29, 2008).

over the preceding 30 years.[46] Thus, it will not take many more episodes like the 2005 bleaching event before living coral reefs in the Caribbean disappear entirely.[47]

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 ESA. For at least the past 3,000 years, these coral were the dominant reef-building corals in the Caribbean.[48] 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.[49] Over the past 30 years, however, the two species have declined by upwards of 90 percent.[50] The primary drivers of the decline have been disease and temperature-induced bleaching.[51] Additionally, the period of decline coincided with an ongoing period of increased hurricane activity, with intense storms destroying entire reef tracts in certain areas.[52] 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

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[46] Gardner et al. 2003.
[47] Hoegh-Guldberg 2005.
[48] Hughes 1994.
[49] *Id.*
[50] *Id.*
[51] *Id.*
[52] Precht & Aronson 2004.

product of global warming.[53] 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.[54] 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.[55]

3. Carbon Dioxide dangerously threatens the ocean's chemistry and marine species:

While bleaching is perhaps the most well-known impact of global warming on coral reefs, it is far from the being the only such impact. At the same time the 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_2. The growth in atmospheric CO_2 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.[56]

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_2 enters the oceans' waters, there is a profound impact on the entire marine ecosystem, for ocean

[53] Hansen 2006; *see also* Alley et al. 2007.
[54] Harvell et al. 2002.
[55] Santer et al. 2006; *see also* Alley et al. 2007.
[56] Alley et al. 2007.

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_2 emissions will be devastating and irreversible on human time scales.[57] The authors predict that 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.[58]

Already, the oceans have taken up about 50 percent of the CO_2 that humans have produced since the industrial revolution, and this has lowered the average ocean pH by 0.11 units.[59] Currently, the ocean takes up about 22 million tons of CO_2 each day.[60] While preindustrial levels of atmospheric CO_2 hovered around 280 ppm, they have now increased to over 380 ppm; if current trends continue, they will increase another 50 percent by 2030.[61] These rising CO_2 levels are irreversible on human timescales, and over time, the ocean will absorb up to 90 percent of this CO_2, greatly affecting the oceans' pH level.[62]

This foretells a stark future for marine life. Due to acidification, within our lifetimes, coral reefs may erode faster than they can rebuild. [63] Corals are extremely vulnerable to ocean acidification and scientists studying acidification predict that coral reefs will decline in density and diversity unless CO_2 emissions are stabilized at present

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[57] Caldiera 2007.
[58] *Id.*; Alley et al. 2007.
[59] Sabine 2004; Alley et al. 2007.
[60] Feely 2006.
[61] Orr et al. 2005; Turley 2006.
[62] Kleypas 2006.
[63] Feely 2006.

levels.[64] Under conservative models of future CO_2 emissions, most of the world's coral reefs, already bleaching in the warmer waters, will erode to rubble by the end of the century.[65] 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.[66] 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_2 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.

D. 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.[67] 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

[64] Hoegh-Guldber et al. 2007.
[65] *Id.*
[66] Royal Society 2005.
[67] Thomas et al. 2004.

would be committed to extinction by the year 2050.[68] 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 we are currently on a trajectory to exceed the emissions assumed in the high warming scenario used by Thomas et al. (2004.)[69] 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.

IV. CONCLUSION

It is now unequivocal that the earth is warming and the climate is changing as a result of increasing concentrations of anthropogenic greenhouse gases in the earth's atmosphere. Global warming has already brought about many ecological changes and has become the leading threat to the Earth's ecosystems and biodiversity. Science has clearly demonstrated that continuing in a business as usual fashion, with no plan for controlling and limiting greenhouse gas emissions, will cause drastic changes to the climate and lead to the extinction of a vast number of species around the globe. The EPA must fulfill its duty to regulate CO_2 and other greenhouse gases. For these reasons, the EAB should require Region VIII to issue a BACT limit for CO_2 emissions in its PSD permit to Desert.

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[68] *Id.*
[69] Raupach et al. 2007.

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