



# CENTER FOR BIOLOGICAL DIVERSITY

*Via U.P.S. Overnight Delivery*

November 13, 2006

Carrie Hyke  
San Bernardino County Land Use Services Department  
Advanced Planning Division

**Re: Comments on the Draft Environmental Impact Report for Nursery Products  
Hawes Composting Facility: State Clearinghouse Number 2006051021.**

Dear Ms. Hyke,

I am submitting this letter on behalf of the Center for Biological Diversity (“Center”), a non-profit organization with over 25,000 members across the United States, many of whom reside in San Bernardino County. The Center is dedicated to protecting imperiled species and their habitats through science, policy, and environmental law. As described below, the Center objects to approval of the proposed project based on its impacts to the environment and inadequacy of the current environmental documents.

The Nursery Products Hawes Composting Facility Project will significantly alter the existing landscape and environment. The project will be comprised of an office building, parking lot, scale, composting windrows, screening area, equipment, finished product storage area and a 2,000 gallon above-ground fuel tank. It will destroy 160 acres of occupied Desert Tortoise habitat and process 400,000 tons of sewage sludge per year. The project will require between 96 and 174 truck trips daily from unspecified locations in San Bernardino County and the Inland Empire.

The primary concerns with the Draft EIR noted in this comment letter are its inadequate analysis and mitigation of impacts the project will create to biological resources (particularly the Desert Tortoise), air quality, water quality, hazards and hazardous materials, as well as the lack of analysis and mitigation of greenhouse gas emissions and issues of environmental justice.

## **I. THE DRAFT EIR FAILS TO MEET THE REQUIREMENTS OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT**

An EIR is a detailed statement, prepared under the California Environmental Quality Act, Public Resources Code §§ 21000-21178 (“CEQA”), describing and analyzing the significant environmental effects of a project and discussing ways of

avoiding or mitigating those effects. 14 Cal Code Regs § 15362. The purposes of an EIR are to provide decision making bodies and the public with detailed information about the effect a proposed project is likely to have on the environment, to list ways in which the significant effects of a project might be minimized, and to indicate alternatives to the project. Pub. Res. Code § 21061; 14 Cal Code Regs. § 15002. The following purposes have also been enumerated by California Courts: an EIR should provide disclosure of all relevant facts; should provide a balancing mechanism whereby decision makers and the public can weigh the costs and benefits of a project; should provide a means for public participation; should provide increased public awareness of environmental issues; should provide for agency accountability; and should provide substantive environmental protection. Because of the shortcomings discussed below, the Draft EIR for the project is inadequate to meet both the procedural and substantive mandates of CEQA.

## **II. THE DRAFT EIR FAILS TO DISCLOSE INFORMATION THAT ADEQUATELY DEFINES THE PROPOSED PROJECT**

CEQA mandates that the project description be accurate because an accurate description is necessary to determine the scope of environmental review. *County of Inyo v. City of Los Angeles*, 71 Cal App. 3d 185, 199 (1977). If the description of the project is inadequate because it fails to completely discuss and accurately portray the project, the environmental analysis will likely reflect these shortcomings. *Laurel Heights Improvement Ass'n v. Regents Univ. of Cal.* 47 Cal. 3d 376, (1988).

The Draft EIR fails to meet the disclosure requirements of CEQA. In order to understand and analyze the proposed project it is imperative to know exactly where the sewage sludge is coming from. The Draft EIR gives a vague and inadequate explanation of where the sludge will derive from, stating that the project will compost waste for the County of San Bernardino and the Inland Empire. Draft EIR at ES-1. It is impossible to sufficiently analyze the project's impacts without knowing exactly where the waste will derive from. The impact on traffic and air quality due to truck emissions, and hazards created by transporting sewage sludge cannot be adequately assessed without knowing the precise location of departure. Failure to disclose this information compromises the entire Draft EIR, rendering it inadequate under CEQA and therefore, invalid.

## **III. THE DRAFT EIR'S ANALYSIS OF BIOLOGICAL RESOURCES IS INADEQUATE**

The proposed project will result in significant habitat loss, developing 160 acres of habitat occupied by endangered and sensitive species. The project threatens to attract ravens, a natural predator of the Desert Tortoise, to the area and introduce invasive plant species into the adjacent habitat, threatening both protected plant and animal species. Construction activity and vehicle traffic from the project also threaten the existence of the Desert Tortoise and other sensitive species. Further, the project threatens to significantly affect threatened and sensitive species by impacting air quality, water quality and creating hazards such as leaks or spills of toxic sludge into the environment.

The Biological Resources section of the Draft EIR fails to adequately disclose, analyze, avoid, minimize, and mitigate impacts to the biological resources of the project site. While the Draft EIR discloses that the endangered Desert Tortoise, as well as a host of other state-listed and sensitive species, will be impacted by the project, the Draft EIR fails to adequately analyze the significant impacts to these species, fails to address alternatives to avoid such impact, and relies on insufficient mitigation measures to reduce the effects of the project.

The direct and indirect effects of the project will impact a number of rare, sensitive, threatened and endangered species, including, but not limited to, the following: Desert Tortoise (*Gosephurus agassizi*), Mojave Ground Squirrel (*Spermophilus mohavensis*), Barstow Woolly Sunflower (*Eriophyllum mohavense*), California Horned Lark (*Eremophila alpestris actia*), Northern Harrier (*Circus cyaneus*), Bell's Sage Sparrow (*Amphispiza belli*). Draft EIR 4-31; App. C 3.2.4. The species identified above are acknowledged in the Draft EIR and qualify for heightened scrutiny under CEQA.

The Legislature and the Secretary of Resources have determined that certain kinds of impacts are necessarily significant. "Mandatory findings of significance" are required for the following circumstances:

The project has the potential to... substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, [or] reduce the numbers or restrict the range of an endangered, rare or threatened species.

CEQA Guidelines § 15065 [emphasis added]; *see also* Pub. Resources Code § 21083. Additionally, the State CEQA Guidelines Appendix G defines an impact significant if it would "interfere substantially with the movement of any native resident or migratory fish or wildlife species." Section 15065 applies "to the contents of an EIR once it is determined an EIR must be prepared." *Los Angeles Unified School Dist. V. City of Los Angeles* 58 Cal.App.4th 1019, 1024, fn.6.

The mandatory findings of significance control "the identification of effects to be analyzed in depth in the EIR, the requirement to make detailed findings on the feasibility of alternatives and mitigation measures to reduce or avoid the significant effects, and when found to be feasible, the making of changes in the project to lessen the adverse environmental impacts." Discussion following CEQA Guidelines § 15065. The drafters of the guidelines realized that this section was necessary to assure agencies follow the concerns of the Legislature to determine whether effects are significant. *Id.* Courts have determined that impacts to habitat for rare flora and fauna are significant under section 15065 and require full evaluation and recirculation prior to approval. *Mira Monte Homeowners Association v. Ventura County* 165 Cal.App.3d 357, 363-364 (1985). The failure to assess rare, threatened, and endangered species identified in the Biological Report renders the Draft EIR inadequate.

The Draft EIR failed to adequately address significant impacts to species found on or near the project site. Specifically, the Draft EIR did not sufficiently analyze significant impacts to the Desert Tortoise, the Mojave Ground Squirrel and the Burrowing Owl, as well as others. Failure to discuss a significant environmental impact is a violation of CEQA.

CEQA demands that an EIR identify both feasible alternatives and mitigation measures that could avoid or reduce the project's significant environmental effects. Pub. Res. C §21002, 21002.1(a), 21100(b)(4), 21150. The EIR must describe a reasonable range of alternatives to the project or its location that would feasibly attain most of the objectives while avoiding significant effects. 14 Cal. Code Regs §15126.6(a). The EIR must discuss alternatives even if the significant impacts will be avoided or reduced by mitigation. *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.* 47 Cal. 3d at 376. Additionally, the EIR must briefly identify alternatives rejected as infeasible and explain why they were rejected. 14 Cal. Code. Reg. §15126.6 (c).

The Draft EIR fails to adequately address alternatives and therefore does not sufficiently seek to avoid the project's significant environmental impacts to biological resources. As discussed below, the Draft EIR completely fails to address building an enclosed composting facility close to the sewage treatment plants rather than trucking the sludge out to the proposed site and significantly impacting the endangered and sensitive species that live there. Further, even if the lead agency found such an alternative infeasible, it is required to explain the infeasibility and has failed to do so. The Draft EIR notes that the Reduced Capacity Alternative would reduce the amount of replacement habitat necessary to mitigate the significant impacts created by the project but fails to state whether such land is available or sufficient to replace the existing habitat. The Fort Cady site offered as an alternative is also habitat to rare plant and animal species which would bear the impact of the project and proposed mitigation measures are inadequate to reduce the impact to insignificant.

Contrary to CEQA guidelines and relevant case law, the Draft EIR erroneously concluded that the suggested mitigation measures, if implemented, will sufficiently reduce the project's impact to less than significant. The Draft EIR fails to include necessary measures that would mitigate many of the project's impacts, namely those impacts which were not analyzed, below the level of significance. Additionally, the Draft EIR fails to distinguish between the mitigation measures suggested by the project proponents and those proposed by the lead agency. CEQA Guidelines, §15126.4, subd. (a)(1)(A).

#### **A. Desert Tortoise**

The project is subject to the Endangered Species Act ("ESA"), and must fully comply with the ESA's provisions. Section 9 of the Endangered Species Act of 1973, and Federal regulations issued pursuant to section 4(d) of the ESA, prohibit take of endangered and threatened species without a special exemption. 16 U.S.C. §1531 *et seq.* Section 7 of the Act requires Federal agencies to consult with the United States Fish and

Wildlife Service (“USFWS”) should it be determined that their actions may affect federally listed threatened or endangered species or adversely modify critical habitat. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. Harm is further defined by USFWS to include significant habitat modification or degradation that actually kills or injures a listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by USFWS as an action that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), such incidental taking is not considered to be a prohibited taking under the ESA only if it is in compliance with the Incidental Take Statement.

The Desert Tortoise (*Gopherus agassizii*) is a threatened species under the Endangered Species Act. The Mojave population of the Desert Tortoise was listed because numbers are declining precipitously in many areas. These declines are mainly attributed to direct and indirect human caused mortality. Exhibit 1, Fish and Wildlife Service. 1994. Desert Tortoise (Mojave population) Recovery Plan at i. Impacts such as the destruction, degradation, and fragmentation of desert tortoise habitat result from urbanization, agricultural development, livestock grazing, and roads. Exhibit 1, *Id.* Human predation, either by direct mortality or removal from habitat, is also a major factor. Exhibit 1, *Id.* It is estimated that Desert Tortoise populations have declined by up to 59% per year. Exhibit 1, at 3. These declines have been attributed to direct take by humans (e.g., collection for pets or food, shooting, killing and injuring with motor vehicles; habitat loss, degradation, and fragmentation (e.g. due to roads, agriculture, residential development). Sievers et al. 1988, Luckenbach 1982, Coombs 1977a and b); FWS at 6.

Approval of the tentative project will result in harm and harassment of the Desert Tortoise. The Desert Tortoise habitat onsite will be destroyed and adjacent habitat will be modified by the unmitigable significant effects to air quality in addition to the other changes in habitat created by the project. To obtain a permit, the applicant must develop a Habitat Conservation Plan (HCP), designed to offset any harmful effects the proposed activity might have on the species. No incidental take statement has been issued, and no Habitat Conservation Plan is present to allow for take of threatened species. The project cannot proceed in violation of the ESA.

The project has the potential to reduce the numbers or restrict the range of an endangered species. Therefore impacts to the Desert Tortoise represent a mandatory finding of significance. The project will destroy occupied habitat and also result in additional recognized threats to the Desert Tortoise, including, but not limited to, impacts from: construction activity, diminished air quality, vehicle traffic, habitat loss, attraction of predators, introduction of invasive plants, increased fire potential. These impacts must be recognized as significant. Therefore, all feasible mitigation measures should be addressed in order to adequately assess the potential for reducing the impact to less than

significant. Further, the Draft EIR fails to address impacts in relation to the goals of the Desert Tortoise Recovery Plan, Mojave Population (“Recovery Plan”). Exhibit 1. The Recovery Plan is a crucial document guiding the protection and recovery of the species under the ESA. Failure to assess threats and mitigation as it relates the Recovery Plan is a fatal flaw because the Recovery Plan is the oversight agencies’ analysis of what is necessary to conserve and recover the species as required under the ESA.

The Draft EIR recognizes that the project would lead to significant impact on the Desert Tortoise. However, the Draft EIR is deficient because it fails to adequately analyze the impacts addressed and to recognize several additional impacts the project would have on the Desert Tortoise population. These impacts must be considered significant under CEQA and therefore must be sufficiently addressed and properly mitigated.

The Draft EIR recognizes that the project will create unmitigable significant impacts on air quality. Such impact will harm the Desert Tortoise and its ability to both survive and recover. The Draft EIR failed to adequately address the increase of particulate matter from windrows and the way it will likely impact the respiratory-disease prone Desert Tortoise. The Draft EIR briefly mentioned this risk and dismissed it as an insignificant impact because some Desert Tortoise will be removed from the site and the windrows will not be turned during high wind situations. Regardless of these two factors, the risk of particulate matter affecting the Desert Tortoise on the project site and adjacent lands is significant in that it may substantially affect an endangered species and should therefore be analyzed and, if necessary, sufficiently mitigated.

The Draft EIR fails to address the indirect effects of wind-borne biosolids over large areas of desert tortoise critical habitat which are a foreseeable, significant concern. These effects are of concern because biosolid-derived pollutants are likely to negatively impact the food chain, become concentrated in food plants, and then upon being eaten, becoming even more concentrated in animals. A revised version of the EIR must consider this potentially significant effect and analyze and mitigate accordingly.

The Draft EIR suggests that purchasing 800 acres and designating the land as protected habitat, in order to compensate for loss of the 160 acres of occupied Desert Tortoise habitat that would be utilized by the project, will serve as an adequate mitigation measure to reduce the impact to less than significant. However, there is no mention of whether sufficient land is available for purchase or the quality of that habitat. Mitigation measures cannot be remote and speculative. *Federation of Hillside & Canyon Ass’ns v. City of Los Angeles*, 83 Cal. App. 4<sup>th</sup> 1252, 1260 (2000). The final EIR must explain which lands the project proponent intends to purchase as mitigation habitat and the feasibility of purchasing such land.

The Draft EIR claims the project area is within the planning area of the proposed West Mojave Coordinated Management Plan (“WMP”). Additionally, the Draft EIR uses the WMP as a mitigation measure. Draft EIR at 4-36. However, the WMP has not been

passed and implemented in San Bernardino County and there is no evidence to support the assumption that such approval will occur.<sup>1</sup>

“An adequate EIR must respond to specific suggestions for mitigating a significant environmental impact unless the suggested mitigation is facially infeasible.” *Los Angeles Unified School District v. City of Los Angeles*, 58 Cal. App. 4<sup>th</sup> at 1029. The Draft EIR failed to adopt many suggested mitigation measures which are not facially infeasible and address significant impacts. For example, as mentioned in the comments submitted by the Desert Tortoise Preserve Committee and the Desert Tortoise Council, the entire project must be enclosed within a solid, roofed structure. Additionally, all roads to the site within the Desert Tortoise DWMA that will be used by truck traffic generated by the project must be permanently fenced on both sides with tortoise barrier fencing and all green waste should be sterilized prior to being hauled to the project site to eliminate the risks of wind blown spread of exotic plant and weed seeds.

## **B. Other Species**

Impacts to sensitive species and their habitat must also be fully analyzed, avoided, and minimized or mitigated where unavoidable. Species are categorized as sensitive because of their potential to become threatened or endangered in the future. Impacts from human development, urbanization, habitat alteration and fragmentation, are some of the biggest threats to fish and wildlife. As discussed above CEQA requires a mandatory finding of significant impact if a project has the potential to reduce the numbers or restrict the range of an endangered, rare or threatened species. CEQA Guidelines § 15065. Direct mortality of sensitive species is a significant impact to a threatened species and must be analyzed in depth as a significant impact. In order to determine the significance of the impact to sensitive species, the EIR should disclose a quantified analysis of impacts to species populations resulting from project activities. Additionally, the results of numerous individual projects eliminating small habitat fragments are cumulatively considerable. The project cannot rationalize impacts to sensitive species and their habitat as insignificant without analysis and without proposing specific mitigation measures. The Draft EIR must fully mitigate the impacts of habitat destruction.

The Draft EIR fails to adequately analyze impacts to species with habitat on the project site that were not found during surveys. Negative surveys do not mean that the species does not utilize the habitat on the project site; it simply means that the species was not present at the time of the survey. The project will eliminate suitable habitat for sensitive species and contribute to continued habitat fragmentation, and destruction. The elimination of marginal or immature habitat, because it presently does not meet the ideal habitat for sensitive species, will prevent the species from ever using that habitat in the future during dispersal and/or colonization. These impacts must be addressed and mitigated.

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<sup>1</sup> See Record of Decision, West Mojave Plan: Amendment to the California Desert Conservation Area Plan, March 2006 (approving a BLM only plan).

Even if it were proper to assume that no rare, threatened or endangered species currently occupy the project area, which it is not, that would not relieve the County from the duty to identify and analyze impacts to these species due to the fact that the project area contains valuable high quality habitat that these species will need in the future in order to adequately recover. In other words, just because habitat is not currently occupied does not mean the habitat is unnecessary or inessential to conservation of the species which includes both survival and recovery of the species. To the contrary, every acre of habitat that is left is critically important to the future recovery of the sensitive species such as the Burrowing Owl. Therefore, without adequate current surveys to the contrary, the Draft EIR must assume that species associated with the project area are present and that, even if these species are not present, the loss of high quality unoccupied habitat to development may directly, indirectly, and cumulatively impact the conservation of these species.

The Draft EIR fails to adequately address impacts to the Mojave Ground Squirrel (*Spermophilus mohavensis*) and its habitat. The Mojave Ground Squirrel, as acknowledged in the Draft EIR, Appendix C at 3-4, is listed by California as a threatened species. The Draft EIR recognizes the potentially significant impact construction activity may have on the Mojave Ground Squirrel but claims that surveys to determine the presence of the Squirrel within the project area will reduce that impact to less than significant. This is an inadequate mitigation measure because surveys alone do not mitigate for impacts to the species. Moreover, as stated above, absence of the species at the time of the survey does not mean that the species does not utilize the habitat at the project site, but rather that it is not utilizing the habitat at the time of the survey. The species' presence at the time of the survey can not guarantee whether or not the species will be present during the entire span of construction activities. Further, additional construction activities may take place at times other than those designated for initial construction.

The Draft EIR fails to address impacts to the Burrowing Owl (*Athene cunicularia*) and its habitat. The Burrowing Owl is listed by California as a species of special concern. The Draft EIR recognizes that construction activities and vehicle traffic from the project could possibly directly harm the Burrowing Owl. However, the Draft EIR fails to adequately analyze the potential impacts to the species and its habitat. The project's activities will result in habitat modification, increased traffic, introduction of new species and human disturbance, these impacts and other must be addressed under CEQA.

The Draft EIR fails to adequately address impacts to the Barstow Woolly Sunflower (*Eriophyllum mohavense*) and its habitat. The Barstow Woolly Sunflower, as noted in the Draft EIR, Appendix C at 3-4, is a federal species of special concern. The Sunflower generally blooms in April or May and may have not yet bloomed when the April 2006 survey was conducted. Citing that the species was not detected, the Draft EIR did not analyze the potential significant impacts to this species; this is insufficient. If adequate surveys are not conducted, the lead agency must assume that this species may be found on the project site and, under CEQA the Draft EIR must analyze, avoid, and if necessary mitigate, any potentially significant impacts to the Barstow Woolly Sunflower.

The Draft EIR fails to address impacts to the California Horned Lark (*Eremophila alpestris actia*) and its habitat. The California Horned Lark, as noted in the Draft EIR, Appendix C at 3-5, is listed as a state species of special concern and was observed on the project site during the April 2006 survey. Yet, the Draft EIR fails completely to analyze potential impacts to the species, such as the introduction of non-native species into adjacent natural habitat. The potential impacts to the California Horned Lark must be fully analyzed and avoided, or minimized and mitigated.

The Draft EIR fails to address impacts to the Northern Harrier (*Circus cyaneus*) and its habitat. The Northern Harrier, as recognized in the Draft EIR, Appendix C at 3-5, is protected under the federal Migratory Bird Treaty Act and listed as a state species of special concern. The Northern Harrier was observed on the project site during the April 2006 survey. Harriers have declined in California in recent decades and the disturbances at the project site will likely affect the species. The Draft EIR must fully analyze, avoid, minimize, and mitigate the impacts to the Northern Harrier.

The Draft EIR fails to address impacts to the Bell's Sage Sparrow (*Amphispiza belli*) and its habitat. The Bell's Sage Sparrow, as noted in the Draft EIR, Appendix C at 3-4, is a state species of special concern. Yet, the Draft EIR fails completely to analyze the impacts to this species. Under CEQA the Draft EIR must analyze any potentially significant impacts to the Bell's Sage Sparrow and avoid or minimize and mitigate those impacts.

There is a complete lack of analysis regarding the project's impact on surrounding dairy barns. Many dairy barns are in fairly close vicinity of the project site. Bioaerosols, viruses, bacteria, dust, odor and flies from the site may migrate over to the barns, impacting the dairy cattle and impose respiratory and other risks. The revised EIR must address the impact to these biological resources and proper mitigation.

#### **IV. THE DRAFT EIR'S ANALYSIS OF AIR QUALITY IS INADEQUATE**

The proposed project will create significant impacts to the quality of the air at the project site and the throughout the region. The construction and operation of the facility will result in air pollution which threatens the well-being of endangered and sensitive species, nearby residents, and employees. Additionally, the project will result in greenhouse gas emissions that will contribute to global climate change and foul odors.

Although the Draft EIR recognizes that the proposed project will cause air pollution, and that it will have a significant, negative effect on local and regional air quality, it underestimates the scope of those negative impacts, and inadequately analyzes ways to avoid or mitigate them. The Draft EIR explains the state and federal Clean Air Act regulatory framework, but then fails to conduct a complete analysis of the project's air quality impacts. The fact that other agencies have regulatory control over some aspects of air pollution pursuant to other statutes in no way lessens the County's responsibility to fully disclose, analyze, avoid, minimize, and mitigate all air quality impacts of the proposed project.

The Draft EIR recognizes that the proposed project lies within the Mojave Desert Air Basin (“MDAB”), and consults data from the Barstow monitoring station in determining whether recorded levels of gases exceed federal and state standards. As stated in the Draft EIR, the MDAB currently does not meet State and Federal ambient air quality standards for ozone and PM10. In addition to already existing emissions, the Draft EIR discusses the types and levels of air pollutants likely to emanate from the project site during construction and “operations,” and concludes that such emissions will have significant negative impacts on air quality. Draft EIR at 4-21. The project will also generate offensive odors and significant dust.

The impacts of air pollution are much more far-reaching and dangerous than the mere violation of an air quality standards might suggest. Polluted air causes short and long term health problems for people and other species, and affects the environment locally, regionally and globally.<sup>2</sup> Regionally, air pollution affects human health and the environment. Air pollution causes a litany of problems, from poor visibility to health problems to nitrogen deposition.

Globally, human-induced air pollution is causing climate change. This fact is no longer subject to credible debate. In 2001, the Intergovernmental Panel on Climate Change (“IPCC”) concluded that over the next century, average global temperatures will rise between 2.5 and 10.5 degrees Fahrenheit.<sup>3</sup> Dr. Rajenda Pachauri, chairman of the IPCC, has stated that the world has “already reached the level of dangerous concentrations of carbon dioxide in the atmosphere,” and that “[w]e are risking the ability of the human race to survive.”<sup>4</sup> Tangible evidence that the world is getting warmer can be found in the Arctic, where the sea ice has been declining (melting and not re-freezing) a staggering 9% per decade. Polar bears and other Arctic species are dwindling as their habitat literally melts from under them. Even under conservative estimates, scientists say Arctic winter temperatures could rise as much as eighteen degrees Fahrenheit, eliminating year-round ice completely by the end of the century.<sup>5</sup>

In discussing the air quality impacts, the Draft EIR concludes that projected emissions from the proposed project will violate state and federal air quality standards. However, it falls far short of a complete discussion of the impacts. The CEQA Guidelines provide that, in discussing the environmental effects of a project, an EIR must include “a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of

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<sup>2</sup> Environmental Working Group: Sharp, R. and B. Walker. *Particle Civics: How Cleaner Air in California Will Save Lives and Save Money.*

<sup>3</sup> 4 IPCC, *Climate Change 2001: The Scientific Basis.* Cambridge University Press. (2001)

<sup>4</sup> The Independent, *Global Warming Approaching Point of No Return, Warns Leading Climate Expert,* January 23, 2005.

<sup>5</sup> ACIA. 2004. *Impacts of a Warming Climate: Arctic Climate Impact Assessment.* Cambridge University Press. (2004)

environmental consequences.” 14 Cal. Code Regs. § 15151. The Draft EIR fails to do so.

The Draft EIR correctly states that the U.S. EPA regulates six criteria pollutants under the Clean Air Act: ozone (O<sub>3</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), oxides of sulfur (SO<sub>x</sub>), particulate matter (PM) and lead. Under the California Clean Air Act, the California Air Resources Board (CARB) regulates these same six criteria pollutants, in addition to sulfate, hydrogen sulfide, vinyl chloride, and visibility (a measure of air quality rather than a pollutant).

Ozone (O<sub>3</sub>) is the chief component of the common pollutant known as "smog." Ozone is formed when emissions including reactive organic gases (ROG) and oxides of nitrogen (NO<sub>x</sub>) undergo photochemical reactions in sunlight and are transformed to O<sub>3</sub>. Ozone irritates lung airways and causes inflammation of the skin resembling sunburn. Ozone causes wheezing, coughing, pain when taking a deep breath, and breathing difficulties during outdoor activities. Repeated exposure to ozone pollution for several months may cause permanent lung damage. Children, the elderly, and those with respiratory problems are at the most risk, but anyone who spends time outdoors may be affected. Even at very low levels, ozone triggers a variety of health problems including aggravated asthma, reduced lung capacity, and increased susceptibility to pneumonia and bronchitis. Ozone also interferes with the ability of plants to produce and store food, which makes them more susceptible to disease, insects, and weather, and damages the leaves of trees and plants, ruining the appearance of cities, national parks, and recreation areas. Ozone also reduces crop yields, and is, in fact, responsible for 98% of air quality related crop damage in California.<sup>6</sup> A revised EIR must discuss the proposed project's production of ozone precursor emissions and the direct, indirect, and cumulative impact both on human health and on vegetation and wildlife habitat, especially habitat for threatened, endangered, and sensitive species.

The Draft EIR concludes that the MDAB does not meet the State and Federal air quality standards for Ozone (O<sub>3</sub>) and PM<sub>10</sub>. Further, the project's emissions would exceed all thresholds during project operations and this impact was found to be significant and unmitigable. Under CEQA, the Draft EIR must discuss the lead agency's reasons for choosing to tolerate these impacts rather requiring an alternative design. The Draft EIR fails to do this and also fails to adequately address possible mitigation measures for project emissions.

Particulate matter (PM) is a category of pollutant which includes the respirable particles suspended in the air. PM is classified into "coarse" particles, PM<sub>10</sub>, or those under 10 microns in diameter, and "fine" particles, PM<sub>2.5</sub>, or those under 2.5 microns in diameter, and comes from a variety of sources including diesel exhaust, windblown dust from agriculture and construction and motor vehicles. Because the human respiratory system's ability to filter out harmful particles decreases as particles size decreases, the smallest particles lodge deepest in the lungs and are especially dangerous. PM can

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<sup>6</sup> Environmental Working Group: Sharp, R. and B. Walker. Particle Civics: How Cleaner Air in California Will Save Lives and Save money.

contain at least 40 toxic chemicals including heavy metals, nitrates, sulfates, and aerosols, as well as soot, soil, and dust. PM is associated with extreme health consequences. PM causes premature death, causes and aggravates asthma, increases coughing, painful breathing, and chronic bronchitis, and decreases lung function. Lung inflammation caused by inhaling PM can also lead to changes in heart rhythm, constriction of blood vessels, blood coagulation, and increased risk of heart attacks. Unlike what is believed about some other air pollutants, there is no "safe" level of PM pollution: even very low levels of PM lead to health impacts.<sup>7</sup>

The Draft EIR fails to adequately address Particulate Matter, particularly the impact it creates for asthmatics and children. In discussing mitigation by way of placing the project area in an enclosed facility, the Draft EIR dismisses such a measure because it will not reduce emissions to an amount that will make the impact less than significant. However, just because enclosing the project will not make the project's emissions less significant does not mean there is no mitigation value in implementing such a measure – minimizing impacts is also required under CEQA.

An EIR must reflect a good faith effort to evaluate and disclose environmental impacts, address mitigation measures to reduce the impacts, and discuss alternatives to avoid the impact if it is unmitigable. 14 Cal Code Regs §15362. The Draft EIR fails to adequately address alternatives for unmitigable significant impacts to air quality and therefore does not sufficiently seek to avoid the project's significant environmental impacts. As discussed below, the Draft EIR completely fails to address building an enclosed composting facility either on this site or close to the sewage treatment plants rather than trucking the sludge out to the proposed site and significantly impacting the air quality of the MDAB with the plant's operations and truck emissions. Further, even if the lead agency found such an alternative infeasible, it is required to briefly explain the infeasibility and has failed to do so.

The lead agency fails to adequately analyze the No Project Alternative in relation to air quality impacts. The Draft EIR claims that the sewage sludge will have to be sent elsewhere if the project is not developed and that impacts to air quality may be "less than, comparable to or greater than those predicted for the proposed Project." Draft EIR at 4-27 (4.3.4.1). However, there is no information provided in the Draft EIR to support or clarify these claims and thus, the analysis of the No Project alternative is inadequate under CEQA. The Reduced Capacity alternative fails to mitigate the impacts of the project to insignificant levels and the Fort Cady site would produce emissions virtually identical to the proposed project. Therefore, the Draft EIR fails to provide an environmentally superior alternative apart from the No Project alternative, as required by CEQA. 14 Cal Code Regs §15126.6(e)(2).

The proposed project will do nothing to improve local, regional or global air quality, and everything to further degrade them all. The City must consider alternatives as

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<sup>7</sup> American Lung Association, American Lung Association State of the Air, 2002

well as adequate mitigation options. Mitigation measures may not be voluntary, and they must be effective.

The City must consider requiring alternative energy sources to be integrated into the proposed project, including such elements as solar power and using vehicles that run on alternative fuels like biodiesel for employee and sewage transportation.

Methane is a leading greenhouse gas. According to NASA, methane's effect on warming the global climate may be double what it is currently believed to be. Methane leads to increased air pollution and smog, which in turn effects the world's climate.<sup>8</sup>

The Draft EIR fails to adequately address Methane Capture as a mitigation measure. The proposed project will likely emit 34.5 lbs. of methane per ton of sewage processed at the facility. Acknowledging that in order to eliminate emissions the project must employ a system of capture and thermal destruction by a control device, the Draft EIR simply concludes that such mitigation measures would render the project economically infeasible. Besides a brief mention, the Draft EIR failed to adequately discuss methane capture and explain why this mitigation measure is economically unfeasible. Indeed other facilities use captured methane for co-generation of energy. This alternative is not mentioned at all and no explanation is provided for this oversight. The revised EIR must fully address methane capture and, if necessary, explain why the County believes that this option is infeasible.

The Draft EIR fails to adequately address composting requirements for windrow composting set forth by the EPA, particularly in the 503 Regulations.<sup>9</sup> The requirements set out in 503 are in accordance with the time-temperature relationship between the sludge and the turning of the windrows. The requirements were created to limit emissions and permanent effects they may have. In order to comply with federal and state law, the Draft EIR must fully address the 503 Regulations and assure that the project conforms to them.

In regards to the issue of odor, the Draft EIR fails to adequately address alternatives that would avoid this impact or minimization and mitigation measures. The mitigation measures suggested fail to include the option of completely enclosing the facility, which would significantly aid in controlling the offensive odors generated by the project.

The Draft EIR fails to address adequate mitigation measures for truck and automobile emissions which will result from the project. The trucks used to haul the waste to and from the project area, as well as the trucks used to construct the facility could potentially run on biodiesel fuels, reducing the emissions that contribute to the

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<sup>8</sup> National Aeronautics and Space Administration (NASA), *Methane's Impacts on Climate Change May Be Twice Previous Estimates*. 2005.

<sup>9</sup> EPA 503 Regulation, 40 CFRPT 503, 1993

project's overall impact to air quality. This alternative that could avoid many of the project's impacts to air quality and greenhouse gases must be analyzed in the DEIR.

### **III. THE DRAFT EIR'S ANALYSIS OF HYDROLOGY AND WATER QUALITY IS INADEQUATE**

The proposed composting facility will utilize limited water resources and potentially contaminate surface water with runoff from the windrows. Construction and operation of the project will create risks of significant impact to water quality, which will affect the local ecosystem and residents.

The Draft EIR fails to adequately address significant impacts created by the proposed project and to suggest adequate alternatives or proper measures to minimize or mitigate such impacts. As recognized by the Draft EIR, the project site is located in the Mojave groundwater basin – an area in sever overdraft. As such, the EIR must evaluate the project to determine whether it will have any impact on the groundwater, and consequently, on the health and safety of residents who depend on that water.

CEQA guidelines establish that a significant impact is expected if the project substantially downgrades water quality. CEQA Guidelines, §15064. The relocation of hundreds of thousands of tons of sewage waste over an aquifer creates the risk of contamination and therefore presents potential significant impacts. The Draft EIR fails to adequately analyze the potential impact of the project by considering only the lesser potential impact rather than the worse case scenario in each assessment. 14 Cal Code Regs §15126.2(a).

The Draft EIR fails to adequately address alternatives and therefore does not sufficiently seek to avoid the project's significant impacts to water quality. As discussed below, the Draft EIR completely fails to address building an enclosed composting facility on this site or close to the sewage treatment plants rather than trucking the sludge out to the proposed site and significantly impacting the ground and surface water in the area, which the residents of Hinkley as well as native species and migrating birds rely upon. Further, even if the lead agency found such alternatives infeasible, it is required to explain the infeasibility and has failed to do so.

The Draft EIR improperly defers identification and analysis of many of the project's impacts, as well as formulation of mitigation measures, to a later time. This deferral frustrates informed decision-making and violates CEQA. "An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences." CEQA Guidelines § 15151. *See Concerned Citizens of Costa Mesa, Inc. v. 32<sup>nd</sup> District Agricultural Association*, 42 Cal. 3d 929 (1986) ("the EIR must contain facts and analysis, not just the agency's bare conclusions or opinions."); *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners*, 91 Cal.App.4th 1344 (2001); *Stanislaus Natural Heritage Project v. County of Stanislaus*, 48 Cal. App. 4th 182 (1996).

CEQA guidelines require environmental analysis “as early as feasible in the planning process to enable environmental considerations to influence the project program and design.” CEQA Guidelines, § 15004, subd. (b). The Courts have consistently reiterated that concern:

[e]nvironmental problems should be considered at a point in the process “where genuine flexibility remains.” A study conducted after approval of a project will inevitably have diminished influence on decision-making. Even if the study is subject to administrative approval, it is analogous to the sort of post hoc rationalization of agency actions that has been repeatedly condemned in decisions construing CEQA.

*Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296,307 (citations omitted).

One of the mitigation measures proposed is to prepare a Storm Water Pollution Prevention Plan (“SWPPP”) in order to obtain coverage under a National Pollution Discharge Elimination System (“NPDES”) permit. The DEIR states that the SWPPP shall be prepared and implemented prior to disturbing a site.<sup>10</sup> However, while compliance with the NPDES permitting is necessary, it does not excuse the County to from analyzing impacts to water resources in the EIR. Under CEQA those impacts must be fully addressed in the EIR, the commitment to obtain a permit notwithstanding.

The Draft EIR provides an inadequate analysis of the use of water for the project and its potential impact. There is no specification whether the project will use the groundwater or import water to the site. Draft EIR at 2-18. If a well is installed, the Draft EIR suggests that 1,000 gallons will be used per day but fails to explain how that figure was calculated. Does this figure account for the water which will be used by employees to clean their hands and shower? Does it account for water which must be kept on hand and potentially used for fire firefighting? Moreover, the DEIR fails to analyze the impacts of such extractions on the local aquifer that is already over-drafted and fails to clearly state that the needed water may not be available for the life of the proposed project. If imported water is needed, the impacts of taking that water from other areas must be fully addressed in this DEIR as well.

The Draft EIR concludes that the quantity of water needed for the project would be considered a very small amount but gives no basis or support for claiming that the use of water by the project will be insignificant and certainly provides no cumulative analysis that would support this claim. The project site exists in a desert climate where the surrounding region relies almost entirely on groundwater for its water supply. To conclude that any new use of groundwater will be insignificant without supporting figures is insufficient. Further the only “mitigation measure” is monitoring, collecting a

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<sup>10</sup> National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction Activity (general permit) Water Quality Order 99-08-dWQ

sample from the groundwater well for only one year even though there is potential for the project to expand over time. Draft EIR at 4-61. This is inadequate under CEQA.

The Draft EIR fails completely to address the issue of truck cleaning and the subsequent water runoff. The trucks carrying the sewage waste will have to be cleaned and the water used to clean the trucks will consequently contain runoff from the biosolids that may contain pathogens that could contaminate surface waters. The revised EIR must address this aspect of the project and all necessary alternatives to avoid, minimize or mitigate such impacts. For example, the EIR must address whether the retention basins, proposed as a measure to mitigate runoff from the windrows during rains, will also be sufficient contain runoff from the cleaning of trucks or any other vehicle containing possible contaminants. Additionally, the amount of water needed to perform the service of cleaning trucks which come to and from the project site is sure to number in the thousands of gallons. This affects the water use analysis, which as stated above, was inadequate to begin with.

#### **IV. THE DRAFT EIR'S ANALYSIS OF HAZARDS AND HAZARDOUS MATERIAL IS INADEQUATE**

Numerous impacts are posed by the hazards and hazardous materials resulting from the construction and operation of the proposed project. Potential impacts include, fuel leaks and spills, exposure to pathogens and allergens, fire danger and risks from seismic activities.

The analysis of impacts and mitigation measures regarding hazards and hazardous materials is insufficient under CEQA. The Draft EIR fails to adequately analyze all likely hazards created by the project, rendering it invalid. Under CEQA guidelines, the project will result in a significant impact if it will “create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials” and “creates a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment.” CEQA Guidelines, Appendix G.

The Draft EIR fails to adequately address alternatives and therefore does not sufficiently seek to avoid the project's significant environmental impacts resulting from hazards and hazardous materials. As discussed below, the Draft EIR completely fails to address building an enclosed composting facility close to the sewage treatment plants rather than trucking the sludge out to the proposed site and significantly impacting the habitat, residents, and species both at this site and along the truck route with the hazards and hazardous materials due to the project. Further, even if the lead agency found such an alternative infeasible, it is required to explain the infeasibility and has failed to do so.

The Draft EIR fails to adequately analyze leaks and spills resulting from storage, transfer or fueling activities. The analysis of potential materials that could leak or spill is limited to a general reference of “hazardous materials” without fully delineating the particular materials, what hazards they present and where they could potentially spill or

leak. Biosolids, which will be transported to the project site, may contain human pathogens (i.e. viruses, bacteria, and parasites). Draft EIR at 4-49. Should the truck transporting the biosolids spill any of the material on or off site, or the drums storing the biosolids or fuel should leak or spill, a significant hazard to the public and environment is created. Therefore, the project creates a significant impact which the Draft EIR must adequately address, seek to avoid and minimize or mitigate if unavoidable.

The Draft EIR fails to adequately address mitigation measures for the storage and transfer of hazardous materials by improperly deferring identification and analysis of the Spill Prevention, Control and Countermeasure Plan and the Emergency Contingency Plan to a later time. This deferral frustrates informed decision-making and violates CEQA. CEQA guidelines require environmental analysis “as early as feasible in the planning process to enable environmental considerations to influence the project program and design.” CEQA Guidelines, § 15004, subd. (b). The Draft EIR must address the measures that will be undertaken to avoid or minimize and mitigated this significant impact by including precise information concerning elements of the Plan such as; evacuation procedures, guidelines for transfer operations, containment, clean-up, reporting of spilled liquids containing hazardous materials, inspections of containers and secondary containment areas. In addition, the DEIR must explain how the project proponents will ensure that there are sufficient resources to handle spills that may occur along the truck routes.

In its discussion of the fire danger created by the project, the Draft EIR fails to adequately analyze all of the ways the project may contribute to such a danger and fails to analyze sufficient mitigation measures. The Draft EIR discusses the fire danger created by the heat of materials being composted in the windrows but completely fails to analyze the fire danger elevated by increased non-native weeds which will result from the project. The sludge, which contains high levels of phosphorus and nitrogen, can increase the growth of plants, including invasive weeds which, when they die off, elevate the fire danger. The revised Draft EIR must analyze this fire danger and appropriate mitigation measures. Additionally, one of the mitigation measures for fire hazard is keeping an adequate water supply on site for fire suppression. Because the Draft EIR fails to account for the amount of water required, the analysis of hydrology and water quality is rendered inadequate.

The Draft EIR falsely claims that the potential hazard to human health, created by exposure to the fungus *Aspergillus*, is limited because the site is not open to the general public. Draft EIR at 4-49. However, the Draft EIR does not mandate that workers’ clothing must be left on site and properly cleaned. Nor does it mandate that workers properly shower and disinfect themselves before leaving the site. Because of this, the fungus and other allergens may reach and effect high-risk individuals, particularly in the nearby town of Hinkley. In addition, high winds which are not unusual in this area, are likely to create a risk of exposure downwind.

As the County is well aware, the town of Hinkley suffered toxic contamination of their water supply from the chemical Chromium 6, which imperiled residents with

incapacitating and fatal illnesses. The community and environment is still recovering from the contamination of the water. The Draft EIR acknowledges that those who are immuno-compromised may be at greater risk of infection from the fungi and allergens introduced into the area by the project. Draft EIR at 4-49. Thus, the project poses a potentially harmful effect on the residents of Hinkley and this significant impact must be adequately analyzed and mitigated.

The Draft EIR completely fails to address the seismic risk created by the location of the project site. This is an area of high seismic activity and the disruption of the soil and cracks in containment facilities need to be considered. The revised Draft EIR must include an analysis of this risk and proper mitigation measures.

## **V. THE DRAFT EIR COMPLETELY FAILS TO ADDRESS ISSUES OF ENVIRONMENTAL JUSTICE**

According to the EPA,

Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. EPA has this goal for all communities and persons across this Nation. It will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work.

<http://www.epa.gov/environmentaljustice/index.html>

The Draft EIR does not explain where the sewage sludge is coming from, yet it is clear who is bearing the cost. The people of Hinkley and those living in the general area of the project site are the ones who will suffer the negative impact of having a waste facility so near to their homes. The significant impact the project will have on the air quality of this desert environment, which already suffers from poor air quality, will in turn have a significant impact on the respiratory health of the citizens who reside nearby.

The project calls for open air composting, which is prohibited in many areas of California. The project will likely sacrifice the health and standard of living of Hinkley's residents so that a cheaper facility can be built and the people of wealthier communities in the County and of other Counties, like Los Angeles and Orange County, do not have to suffer the ill effects of having such a facility in their community. All areas should be processing and managing their own sewage waste in enclosed facilities, which can be equipped with biofilters and air quality controls. Hauling sludge to rural communities that are not equipped to defend themselves and their environment is an example of environmental injustice and should not be permitted. The Draft EIR should evaluate this aspect of the project.

This project is not the first time Nursery Products has attempted to operate a composting facility in a rural desert town. The sludge composting facility built in Adelanto, which was significantly smaller than the project proposed here, generated numerous complaints of illness, flies, dust, and odor and, in a settlement agreement, was ultimately forced to stop receiving sludge and close. Nursery Products was cited by the city for violating the Adelanto Municipal Code, the Uniform Building Code. The Adelanto City Council found that Nursery Products had presented the project incorrectly, such that the EIR may have been inadequate, and the project had not complied with conditions of approval and mitigation measures.<sup>11</sup> Some residents were so ill they had to abandon their homes altogether.

The population of Hinkley is 38% Hispanic and yet there is no version of the Draft EIR available in Spanish.<sup>12</sup> Therefore, Spanish speaking citizens have been unable to equally participate in the process or submit comments on the Draft EIR. Furthermore, the recent letter notifying those concerned that the comment period has been extended was in both English and Spanish, thus the County has acknowledged the need to post any information concerning the project in both languages. The County should re-issue and re-circulate an adequate Draft EIR in both English and Spanish.

## **VI. THE DRAFT EIR'S ANALYSIS OF ALTERNATIVES IS INADEQUATE**

CEQA demands that an EIR identify both feasible alternatives and mitigation measures that could avoid or reduce the project's significant environmental effects. (Pub. Res. C §21002, 21002.1(a), 21100(b)(4), 21150). The EIR must describe a reasonable range of alternatives to the project or its location that would feasibly attain most of the objectives while avoiding significant effects. (14 Cal. Code Regs §15126.6(a)). CEQA requires that the Draft EIR contain sufficient information about each alternative in order for the alternative to be adequately evaluated. 14 Cal Code Regs §15126.6(a). The analysis of each alternative must contain concrete information about each alternative in order for a fact-based comparison to be drawn between the project and the alternative. 14 Cal Code Regs §15126.6 (d). The EIR must discuss alternatives even if the significant impacts will be avoided or reduced by mitigation. *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.* 47 Cal. 3d 376 (1988). Additionally, the EIR must briefly identify alternatives rejected as infeasible and explain why they were rejected. 14 Cal. Code. Reg. §15126.6 (c).

The Draft EIR recognizes three System Alternatives: Modifying or expanding current management practices, Conversion technologies, and Alternative composting technology. However, these alternatives are not analyzed in sufficient detail, making the Draft EIR inadequate in its analysis of alternatives as required by CEQA.

Within "current management practices" there are three potential alternatives that could compost "green materials": development of composting operations at one of the

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<sup>11</sup> Battersby, M. City Attorney for the City of Adelanto: Letter to Daniel Avera/Nursery Products Composting Facility, City of Adelanto (Nov. 7, 2003).

<sup>12</sup> <http://www.co.san-bernardino.ca.us/demographics.htm>

major County landfills; promoting the expansion of one or more of the existing private composting operations; or relying on the new facility in Rancho Cucamonga. The Draft EIR acknowledges that all three of these alternatives are possible but claims that none of them are capable of handling the amount of biosolids necessary, within a reasonable time frame and in a comparably remote location, as the proposed Project. This assertion is unsupported by sufficient data, namely any evidence to dismiss that possibility that existing facilities could *potentially* accommodate the necessary composting. Claiming these options are insufficient also undermines the Draft EIR's analysis of a Reduced Capacity alternative, which recognizes a project that processes less waste as a feasible option.

The Draft EIR acknowledges that alternative conversion technologies for waste, such as hydrolysis, gasification and anaerobic digestion, are possible. The County notes that these conversion technologies result in fuels rather than compost. Draft EIR at 3-4. The DEIR claims that the Inland Empire is in need of compost but fail to explain why there is no need for fuels – given the high consumption of fuels in the region, this statement makes no sense whatsoever. Furthermore, it should be noted that Nursery Products, the company proposing the project, is a company that processes and sells compost and has current customers who rely on their compost. Draft EIR at 3-5. However, the proponent's business model cannot be allowed to control the alternatives studied in the EIR. If fuel production is a feasible alternative, it must be examined.

The Draft EIR discusses three potentially feasible Project Specific alternatives: No Project alternative, Reduced Capacity alternative, and Fort Cady site alternative. These three alternatives do not represent a reasonable range as required by CEQA. The EIR must “give reasonable consideration to alternatives in light of the nature of the project.” *City of Rancho Palos Verdes v. City Council*, 59 Cal. App. 3d 869 (1976). The Draft EIR completely fails to address the alternative of placing an enclosed composting facility near the treatment plants where the waste is originating, or enclosing the facility at this site both of which should be considered in light of the nature of the project. If the County considered these alternatives and rejected detailed review for some reason (such as economic infeasibility), the Draft EIR fails explain that any such consideration was undertaken in violation of CEQA.

The Draft EIR fails to adequately analyze the three proposed project specific alternatives and therefore does not sufficiently seek to avoid the project's significant environmental impacts as required under CEQA.

The analysis of the No Project alternative fails to meet the requirements mandated under CEQA by not adequately discussing the existing conditions at the site or projecting what would reasonably be expected to occur in the foreseeable future if the project was not approved. 14 Cal Code Red §15126.6(e)(2) and (3)(3)(C). The lead agency alludes to rejection of the No Project alternative because increasing amounts of sewage waste must be composted and if it is not processed at the proposed site it will be processed elsewhere. Draft EIR at 3-5. However, there is no information included in the Draft EIR to support the claim that there is a growing need to treat and manage biosolids for

composting (and not, for example, for fuel production) or that there is a need to have the treatment occur so far from the plants that produce the waste. Therefore a fact-based comparison between the project and no project is not possible.

The Reduced Capacity alternative proposes to reduce the project's capacity from 400,000 to 320,000 tons of sewage per year and reduce the project site from 160 acres to 80 acres. This alternative will still present significant impacts to protected species like the Desert Tortoise and create emissions that would add to the problems already facing the air quality in the MDAB.

The Fort Cady site presented as an alternative would create comparable significant impacts, and therefore, is not an adequate alternative. The purpose of requiring the EIR to discuss alternatives is to identify ways that significant environmental effects can be avoided or mitigated. *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.* 47 Cal. 3d at 403. The alternatives that are addressed by the EIR should be ones that present a substantial environmental advantage over the proposed project. *Citizens of Goleta Valley v. Board of Supervisors*, 52 Cal. 3d 533, 566 (1990). The Fort Cady site is not a suitable alternative to meet these requirements, and as such, the range of alternatives is not reasonable, as required under CEQA.

## **VII. THE DEIR FAILS TO ANALYZE AND MITIGATE GREENHOUSE GAS EMISSIONS FROM THE PROJECT**

The Draft EIR fails to sufficiently mention and discuss climate change, greenhouse gases or global warming. This is a significant omission and must be remedied in a revised EIR.

### **A. Global Warming is one of the Greatest Problems Facing California and the World**

Concentrations of greenhouse gases are increasing in the earth's atmosphere, primarily from society's burning of fossil fuels for energy and destruction of forests for other human activities. These gases cloak the earth like a blanket, absorbing solar radiation that would otherwise be radiated back into space, causing the earth's climate to warm much like the interior of a greenhouse. This phenomenon is called global warming and is leading to profound changes in the earth's climate. The world's leading scientists agree that society's production of greenhouse gases, including carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O), is responsible for the unprecedented rate of warming observed over the past century. (ACIA 2004; IPCC 2001).

Carbon dioxide accounts for approximately 85% of total emissions, and methane and nitrous oxide together account for almost an additional 14%. Because of the persistence and mixing of these gases in the atmosphere, emissions anywhere in the world impact the climate everywhere equally. Therefore, the impact of greenhouse gas emissions produced in California (the 12<sup>th</sup> largest emitter in the world) will impact not only California, but the rest of the world as well. In the absence of substantial reductions

in greenhouse gas emissions, global warming and its impacts on human health, the environment, and the economy will rapidly worsen in this century.

## **1. Rising Global Average Temperatures**

The Intergovernmental Panel on Climate Change (“IPCC”) has concluded that the global average temperature has risen by approximately  $0.6^{\circ}\text{C} \pm 0.2\text{C}$  during the 20<sup>th</sup> Century (IPCC 2001). There is an international scientific consensus that most of the warming observed has been caused by human activities (ACIA 2004; IPCC 2001). Carbon dioxide emissions, carbon dioxide concentrations, and temperature over the last 1,000 years are all correlated (ACIA 2004). Mean temperatures during the 20<sup>th</sup> century were the highest in 1,000 years (Albritton et al. 2001). Global climate has changed in other ways as well. For example, precipitation has increased by 0.5 to 1% per decade in the 20<sup>th</sup> century over most mid- and high latitudes of the Northern Hemisphere continents, and to a lesser degree over the tropical land areas in the Northern Hemisphere (IPCC 2001).

Global average temperature increases mask significant regional variation. Due to a number of positive feedback mechanisms, warming in the Arctic has been and will be greater and more rapid than in the rest of the world (ACIA 2004). Warming in the Arctic is in many ways a harbinger of what is to come in other areas. Changes already observed in some areas of the Arctic dwarf global averages. In extensive areas of the Arctic, air temperature over land has increased by as much as  $5^{\circ}\text{C}$  ( $9^{\circ}\text{F}$ ) over the 20<sup>th</sup> century (Anisimov et al. 2001).

All climate models predict significant warming in this century, with variation only as to the rate and magnitude of the projected warming (ACIA 2004). Determining the degree of future climate change requires consideration of two major factors: (1) the level of future global emissions of greenhouse gases, and (2) the response of the climate system to these emissions (“climate sensitivity”) (ACIA 2004a). Global warming will continue and accelerate if greenhouse gas emissions are not reduced.

As hard data are not available for events that have not yet occurred, the future level of society’s greenhouse gas emissions must be projected. The IPCC has produced a Special Report on Emissions Scenarios (“SRES”) (Nakićenović et al. 2000) that describes a range of possible emissions scenarios based on how societies, economies, and energy technologies may evolve, in order to study a range of possible scenarios (ACIA 2004a; Albritton et al. 2001).

Climate models make different assumptions regarding how various aspects of the climate system will respond to increased greenhouse gas concentrations and warming temperatures. These differing assumptions are expressed as “climate sensitivity,” defined as the equilibrium response of global mean temperature to doubling levels of atmospheric carbon dioxide (Stainforth et al. 2005). The IPCC (2001) used climate sensitivities of 1.3-5.8K for projections of warming from 1990-2100 (Stainforth et al. 2005).

Using the SRES emissions scenarios and the world's leading climate models, the IPCC predicts that the global average temperature will warm between 1.4 and 5.8°C by the end of this century. Warming will be greater in the Arctic, where the annual average temperatures will rise across the entire Arctic, with increases of approximately 3-5° C over the land areas and up to 7° C over the oceans. Winter temperatures are projected to rise even more significantly, with increases of approximately 4-7° C over land areas and approximately 7-10° C over oceans (ACIA 2004a). Year-to-year variability is also projected to be greater in the Arctic than in other regions (ACIA 2004a).

For a number of reasons, IPCC (2001) and ACIA (2004) projections may be significant underestimates of the amount and rate of warming. First, the planet is already committed to an additional 1° F warming from the excess solar energy already in our climate system, due to lag time in the climate response (Hansen 2005). Second, actual worldwide greenhouse gas emissions may be on the high end or above the range of the IPCC scenarios. All scenarios utilized by the IPCC assume that energy use will shift away from fossil fuels to a greater percentage of sustainable energy sources and that worldwide greenhouse gas emissions will begin to decline during this century (IPCC 2001). Yet the most recent energy projections show that if current policies continue, worldwide greenhouse gas emissions will be 52% higher in 2030 than they are today (IEA 2005).

Third, climate sensitivity may be substantially greater than the levels used by IPCC (2001). Results from the *climateprediction.net* experiment indicate that much larger climate sensitivities of up to 11.5K are possible (Stainforth et al. 2005). Chapin et al. (2005) studied the warming amplification caused by the expansion of shrub and tree cover in the Arctic and resulting increase in solar absorption. This amplification could be as much as two to seven times (Chapin et al. 2005), and is not accounted for in the climate models used in IPCC (2001) (Foley 2005).

Recent data on the unexpectedly fast rate of warming in the Arctic also reinforces the likelihood that the IPCC (2001) projections will need to be revised upwards. (Overpeck et al. 2005) concluded that the Arctic is on a trajectory towards an ice-free summer state within this century, a state not witnessed in at least the last million years (Overpeck et al. 2005). These scientists conclude that there are few, if any processes or feedbacks within the arctic system that are capable of altering the trajectory toward this ice-free summer state. In September, 2005, scientists reported a new record Arctic sea-ice minimum for the month of September (NSIDC 2005). These scientists called the sea ice reduction “stunning” and concluded that Arctic sea ice is likely on an accelerating, long-term decline (NSIDC 2005).

## **2. The Impacts of Global Warming Generally**

Global warming consists of more than just increases in global average temperature. In 2001 the IPCC predicted a 90-99% chance of the following weather changes:

- Higher maximum temperature and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;
- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas;
- More intense precipitation events.

Albritton et al. 2001.

The IPCC also predicted a 66-90% chance of the following:

- Increased summer continental drying and associated risk of drought;
- Increased in tropical cyclone (hurricane) peak wind intensities;
- Increase in tropical cyclone mean and peak precipitation intensities.

Albritton et al. 2001.

Greenland ice cores indicate that the climate can change very abruptly. Scientists caution that thresholds may be reached that trigger rapid and extreme climatic changes that are difficult to predict but could be devastating. Examples include the shut down of the North Atlantic thermohaline circulation, which transfers heat from the equatorial regions to the Arctic, which could plunge northern Europe into a new ice age. The more rapid melting of the Greenlandic ice sheet, once thought to be several centuries away, could trigger this impact and also result in global sea level rise of up to six meters, completely eliminating many coastal areas. As in the case of the shift to an ice-free Arctic summer, scientists warn that we may be very close to crossing thresholds of rapid climate change from which there is no return.

Increased intensity of precipitation events due to global warming has long been predicted by climate models and remains a consistent result of the most advanced modeling efforts (Cubasch and Meehl 2001). In global simulations for future climate, extreme precipitation events over North America are predicted to occur twice as often (Cubasch and Meehl 2001). The impacts of global warming, once envisioned to be experienced by future generations, are already upon us, bringing profound climactic and ecological changes, great loss of human life, and likely extinction for many of the planet's non-human species. As written recently in the *New England Journal of Medicine*,

Since [the release of the *Third Assessment Report* in] 2001, we've learned substantially more. The pace of atmospheric warming and the accumulation of carbon dioxide are quickening; polar and alpine ice is melting at rates not thought possible several years ago; the deep ocean is heating up, and circumpolar winds are accelerating; and warming in the lower atmosphere is retarding the repair of the protective "ozone shield" in the stratosphere.... Given the current rate of carbon dioxide build-up and the projected degree of global warming, we are entering uncharted seas.

As we survey these seas, we can see some of the health effects that may like ahead if the increase in very extreme weather events continues. Heat waves like the one that hit Chicago in 1995, killing some 750 people and hospitalizing thousands, have become more common. Hot, humid nights, which have become more frequent with global warming, magnify the effects.

Epstein 2005.

In 2002, more than 1,000 people died in a spring heat wave in India (Gelbspan 2004). In the spring of 2003, 1,400 people died in another heat wave in India and Pakistan. Also in 2003, a summer heat wave in Europe killed between 21,000-35,000 people (Epstein 2005).

In 1998, Hurricane Mitch dropped six feet of rain on Central America in three days, and was followed by soaring incidences of malaria, dengue fever, cholera, and leptospirosis (Epstein 2005). In 2000, after rain and three cyclones hit Mozambique over a six week time period, the incidence of malaria rose by five times (Epstein 2005). In June, 2001, Houston suffered the single most expensive storm in modern history when tropical storm Allison dropped thirty-five inches of rain in one week, resulting in \$6 billion in damages (Gelbspan 2004). In November, 2001, record flooding killed more than 1,000 people in Algeria (Gelbspan 2004). Also in 2002, more than 12 million people were displaced by severe flooding in South Asia (Gelbspan 2004).

In the Eastern United States, the effect of sea level rise over the last century (primarily from thermal expansion as the oceans warm) has also exacerbated the beach erosion and flooding from modern storms that would have been less damaging in the past (Folland and Karl 2001). In August, 2005, Hurricane Katrina killed hundreds and destroyed the city of New Orleans (Epstein 2005). Katrina was quickly followed by Rita, and then Wilma, putting 2005 on track to setting a new record for hurricane season destruction.

While it may not be possible to link individual episodes to global warming, this overall pattern of increasingly violent weather is very likely linked to human-caused warming. But even more subtle, gradual changes can profoundly damage public health (Epstein 2005). During the past two decades, the prevalence of asthma in the United States has quadrupled, at least in part because of climate-related factors (Epstein 2005). Increased levels of plant pollen and soil fungi may also be involved, as experiments have shown that ragweed grown in twice the ambient levels of carbon dioxide produces 60% more pollen (Epstein 2005). High carbon dioxide levels also promote the growth and spore production of some soil fungi, and diesel particles then help to deliver these aeroallergens deep into human lungs (Epstein 2005).

Widening social inequities and changes in biodiversity caused by global warming have also contributed to the resurgence of many infectious diseases (Epstein 2005).

Global warming is credited with the current spread of Lyme disease, as well as malaria, hantavirus, and West Nile virus (Epstein 2005). Floods are also frequently followed by disease clusters, as downpours can drive rodents from burrows, deposit mosquito-breeding sites, foster fungus growth in houses, and flush pathogens, nutrients, and chemicals into waterways (Epstein 2005). Droughts also weaken trees' defenses against infestations and promote wildfires, which can cause injuries, burns, respiratory illness, and deaths (Epstein 2005).

Shifting weather patterns are jeopardizing water quality and quantity in many countries, where groundwater systems are overdrawn (Epstein 2005). Most montane ice fields are predicted to disappear during this century, further exacerbating water shortages in many areas of the world (Epstein 2005).

An even greater threat to human health comes from illnesses affecting wildlife, livestock, crops, forests, and marine organisms (Epstein 2005). One recent report found that 60% of resources examined, from fisheries to fresh water, are already in decline or being used in unsustainable ways (Epstein 2005). This is a grim prognosis indeed as global population continues to rise even as global warming accelerates.

As discussed further below, global warming will also have profound impacts on the earth's biological diversity and threatens many thousands of species. The primary prevention and mitigation of all of these climate impacts is to reduce the nation's energy use and halt the extraction, mining, transport, refining and combustion of fossil fuels (Epstein 2005). Experts believe that a substantial reduction in energy use would have innumerable health and environmental benefits along with stabilizing the climate (Epstein 2005).

### **3. The Impacts of Global Warming on Threatened, Endangered, Rare, and Special Species**

Climate change is a leading threat to California and the world's biological diversity. Species have already been profoundly impacted by the worldwide average temperature increase of 1° Fahrenheit (.6° Centigrade) since the start of the Industrial Revolution (IPCC 2001). Yet the warming experienced to date is small compared with the 2.5- 10.4° F (1.4-5.8° C) or greater warming projected for this century. The ways in which climate change threatens species are varied and sometimes complex. Below we present an overview of impacts observed to date and projections for the future.

Scientists have predicted three categories of impacts from global warming: (1) earlier timing of spring events, (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 2004). A recent survey of more than 30 studies covering about 1600 hundred species summarized empirical observations in each of these three categories and found that approximately one half of the species were already showing significant impacts, and 85-90% of observed changes were in the direction predicted (Parmesan and Galbraith 2004). The statistical probability

of this pattern occurring by chance, as opposed to being caused by climate change, is less than one in a billion (Parmesan and Galbraith 2004).

Changes in the life cycles and behaviors of organisms such as plants blooming and birds laying their chicks earlier in the spring were some of the first phenomena to be observed. These changes may not be detrimental to all species, but depending on the timing and interactions between species, may be very harmful.

The Edith's checkerspot butterfly, which occurs along the west coast of north America, has been severely impacted by such changes in the lifecycles of organisms. The Edith's checkerspot's host plant, *Plantago erecta*, now develops earlier in the spring while the timing of caterpillar hatching has not changed. Caterpillars now hatch on plants that have completed their lifecycle and dried up, instead of on young healthy plants (Parmesan and Galbraith 2004). The tiny caterpillars are unable to move far enough to find other food and therefore starve to death (Parmesan and Galbraith 2004). Because of this, many Edith's checkerspot butterfly populations have become extinct. Many more populations have been lost in the southern portion of the species' range than in the northern portion, resulting in a net shift of the range of the species northward and upwards in elevation. All these changes have occurred in response to "only" 1.3° Fahrenheit regional warming (Parmesan and Galbraith 2004).

The southernmost subspecies, the Quino checkerspot butterfly, already listed as endangered under the Endangered Species Act due to habitat destruction from urban development and other impacts, has disappeared from nearly 80% of otherwise suitable habitat areas due to global warming (Parmesan and Galbraith 2004). The Bay checkerspot and Taylor's checkerspot butterflies, also listed under the Endangered Species Act, have been similarly impacted (Parmesan and Galbraith 2004).

Butterfly species are impacted in other ways as well. The northward expansion of the treeline into alpine meadow butterfly habitat can impede dispersal, fragment habitat, and increase mortality via bitter collisions with the trees (Krajick 2004; Ross et al. 2005).

While theoretically some species can adapt by shifting their ranges in response to climate change, species in many areas today, in contrast to migration patterns in response to paleoclimatic warming, must move through a landscape that human activity has rendered increasingly fragmented and inhospitable (Walther 2002). When species cannot shift their ranges northward or to increased elevations in response to climate warming, they will become extinct (Parmesan and Galbraith 2004). Therefore, the least mobile species will be the first to disappear.

The pika is a small, vegetarian relative of the rabbit, which is adapted to life on high, treeless mountain peaks. Because pikas need cold, bare habitat, it is not surprising that their numbers are plummeting all over the globe (Krajick 2004). Fossil evidence shows that pikas once ranged widely over North America but their range has contracted to a dwindling number of high peaks during the warm periods of the last 12,000 years

(Krajick 2004). Alpine species like the pika are unable to shift their ranges as warming temperatures and advancing treelines, competitors, and predators impact their mountain habitat (Krajick 2004). Pikas are further limited by their metabolic adaptation to their cold habitat niche, which allows them to survive harsh winters but also causes them to die from heat exhaustion at temperatures as low as 77.9° F (25.5° C) (Krajick 2004).

American pika populations at seven of twenty-five previously recorded localities in the Great Basin of the western United States have disappeared in recent years (Beever 2003). Based on work conducted in the late 1990s, researchers documented that the average elevation of surviving pika populations was 8,310 feet, up from a pre-historic average of about 5,700 feet between 7,500 and 40,000 years ago (Beever 2003; Grayson 2005). Most recently, researchers announced in December, 2005, that at least 2 additional populations have become extinct, and the average elevation of surviving populations has increased by another 433 feet.

In the Yukon, collared pikas declined 90% between 1999 and 2000, when unprecedented midwinter snowmelts, rain, and refreezing eliminated the insulating snow and then iced over the pika's forage plants (Krajick 2004). A pika species endemic to the mountains of northwest China, discovered only in 1986, was not located in extensive surveys in 2002 and 2003 and may be extinct.

Alpine dwelling marmots which rely upon the treeless tundra to visually spot and avoid predators, are also at risk as treelines advance, providing cover for predators like wolves and cougars.

Alpine plants, which have little or no capability to shift their range to higher elevations as the climate warms, may be most at risk. One study predicts that a 3° Centigrade temperature rise over the next century will eliminate eighty percent of alpine island habitat and cause the extinction of between a third and a half of 613 known alpine plants in New Zealand (Krajick 2004).

A study of 15,148 North American vascular plants found that 7%-11% of all species (1,060 to 1,670 plants) could be entirely out of their climate envelopes with just a 5.4° F (3° C) warming, the lower limit of climate change predicted for this century by the IPCC (Morse et al. 1995). At the upper boundary of climate change predicted for this century, 10.4° F (5.8° C), the percentage of plants completely outside their envelope increases to 25-40% (Morse et al. 1995). By contrast, about 90 North American plant species are believed to have become extinct in the past two centuries (Morse et al. 1995).

Species are also at great risk because climate change can alter conditions for diseases and their vectors in a way that allows the incidence of disease to increase and spread. Global warming can exacerbate plant disease by altering the biological processes of the pathogen, host, or disease-spreading organism (Harvell et al. 2002). For example, cold winter temperatures limit disease in some areas because the cold kills pathogens. Warmer winter temperatures can decrease pathogen mortality and increase disease (Harvell et al. 2002). Warmer temperatures can also increase pathogen growth through

longer growing seasons and accelerated pathogen development (Harvell et al. 2002). The most severe and least predictable disease outbreaks will likely be when climate change alters host and pathogen geographic ranges, so that pathogens introduced to new and vulnerable hosts (Harvell et al. 2002).

Climate change will also influence wildlife diseases by affecting the free-living, intermediate, or vector stages of pathogens (Harvell et al. 2002). Many vector-transmitted diseases are currently climate limited because the parasites cannot complete development before the vectors are killed by cold temperatures (Harvell et al. 2002). Well studied vector borne human diseases such as malaria, Lyme disease, tick-borne encephalitis, yellow fever, plague, and dengue fever have expanded their ranges into higher latitude areas as temperatures warm (Harvell et al. 2002). Given the sensitivity of the Desert Tortoise to pathogens, this impact of climate change must be considered in the Draft EIR for this project.

Increased ocean temperatures also cause marine pathogen range expansions. One example is the spread of eastern oyster disease on the east coast of the United States from Long Island to Maine during a winter warming trend in which the cold-water barrier to pathogen growth was removed (Harvell et al. 2002).

A study published in *Nature* has linked the extinction of dozens of amphibian species in the tropical highland forests of Central and South America to global warming due to the creation of ideal conditions for growth of the chytrid fungus, a disease which kills frogs by growing on their skin and attacking their epidermis and teeth, as well as by releasing a toxin (Pounds et al. 2006). Seventy-four of the 110 species of brightly colored harlequin frogs of the genus *Atelopus* have disappeared in the past 20 years due to the spread of the fungus (Pounds et al. 2006). The study's lead author stated "Disease is the bullet killing frogs, but climate change is pulling the trigger" (Eilperin 2006). The golden toad (*Bufo periglones*), endemic to the same tropical mountain forests, was also driven extinct by climate change. These amphibian extinctions from the Monteverde Cloud Forest are one of the largest recorded vertebrate extinction events of at least the last 100 years.

Projected increases in atmospheric carbon dioxide and temperature over the next 50 years will rapidly and substantially exceed the conditions under which coral reefs have flourished over the past 500,000 years (Hughes et al. 2003). Coral reefs are already experiencing a major decline (Hughes et al. 2003). Thirty percent of reefs are already severely damaged, and sixty percent of reefs could be gone by 2030 (Hughes et al. 2003). The link between increased greenhouse gases, climate change, and regional-scale bleaching of corals, questioned by some researchers as recently as ten to twenty years ago, is now incontrovertible (Hughes et al. 2003). In the face of elevated ocean temperatures, corals "bleach" by expelling the symbiotic algae that provide them nourishment. Such bleaching events are often fatal, and as they become more frequent with global warming, threaten not just individual coral species but the entire reef ecosystem.

Corals face an additional threat from greenhouse gas emissions: increasing levels of dissolved carbon dioxide in the oceans from society's fossil fuel use reduces the rate of calcification corals need for growth. The frequency and intensity of hurricanes is also projected to continue to increase, leading to a shorter time for recovery between damaging storm events (Hughes 2003). Two species of Caribbean coral, the elkhorn coral (*Acropora palmata*) and staghorn coral (*Acropora cervicornis*) have been listed under the Endangered Species Act, in part due to elevated ocean temperatures from global warming and ocean acidification from anthropogenic carbon dioxide emissions. U.S. Fish and Wildlife Service (USFWS) 2006.

Species in areas of the globe experiencing more rapid warming than the average, such as the Arctic, are also particularly vulnerable to climate change. The Arctic has warmed at over twice the rate of the rest of the world and has been impacted particularly early and intensely by climate change. Winter temperatures in parts of the Arctic have increased by as much as 3-4° C (5-7° F) in just the past 50 years. Over the next 100 years, under a moderate emissions scenario, annual average temperatures are projected to rise 3-5° C (5-9° F) over land and up to 7° C (13° F) over the oceans. Winter temperatures are projected to rise by 4-7° C (5-9° F) over land and 7-10° C (13-18°) over the oceans (ACIA 2004b:2).

The disproportionate regional warming is caused by several unique characteristics and feedback mechanisms in the Arctic. Chief among these is the decrease in Arctic snow and ice cover and northward expansion of boreal forests and shrubs as temperatures warm. These changes greatly decrease the amount of solar radiation reflected back into space and speed regional warming in a positive feedback loop of enormous magnitude. As temperatures go up, Arctic sea ice melts. Summer sea ice extent is already declining at up to 10% per year, and experienced a new record minimum in September 2005 (NSIDC 2005). An area of sea ice of about half a million square miles, or roughly twice the size of Texas, has been lost (NSIDC 2005). If current trends continue, the Arctic will be ice free in the summer in just a few decades. Decreases in winter sea ice extents in the Arctic have also been documented, approaching reductions of 3% per decade (Meier et al. 2005). The Arctic may already be on a trajectory towards a summer ice-free, "super interglacial" state that has not existed for at least a million years (Overpeck et al. 2005). There appear to be no feedback processes in the Arctic system capable of altering this trajectory towards dramatically less permanent ice than at present (Overpeck et al. 2005).

The rapid warming threatens the entire Arctic web of life, including the polar bear (*Ursus maritimus*), the largest of the world's bear species and an icon of the North. Polar bears live only in the Arctic where sea ice is present for substantial portions of the year. Polar bears are the Arctic's top predator and completely dependent upon the sea ice for all of its essential behaviors. Polar bears are specialized predators of seals in ice-covered waters. Polar bears also use the sea ice to travel, to mate, and some mothers even give birth to their cubs in snow dens excavated on top of the sea ice. The polar bear's dependence on sea ice is so complete that, like whales and seals, they are classified as a marine mammal by scientists and the federal government.

Due to the overwhelming risk to polar bears caused by global warming, in February, 2005, the conservation organization Center for Biological Diversity submitted a Petition to the U.S. Fish and Wildlife Service to list polar bears as a threatened species under the Endangered Species Act. *See* <http://biologicaldiversity.org/swcbd/species/polarbear/petition.pdf>. In February, 2006, the Fish and Wildlife Service found that listing of polar bears “may be warranted,” and the listing process is currently ongoing. 71 Fed.Reg. 6,745 (February 9, 2006).

The number and magnitude of the impacts already recorded from a 1° F increase in average global air temperature is profoundly disturbing. And the projected increase, even under moderate greenhouse gas scenarios, for this century of 2.5- 10.4° F (1.4-5.8° C) is many times the warming already experienced. Not surprisingly, the projections for the future are more disturbing still.

The leading study on the quantification of risk to biodiversity 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. The clear message is that immediate reductions in greenhouse gas emission may save preserve many thousands of species. It is also clear that some impacts from climate change are inevitable, and thus adaptation strategies will be an essential component of any comprehensive strategy to manage the impacts of climate change.

#### **4. The Impacts of Global Warming on California**

California is extremely vulnerable to the impacts of global warming and is also responsible for a significant portion of the U.S. and global emissions of greenhouse gases. The significant risks climate change poses to California as well as the considerable benefits the state could realize if it addresses these risks prompted Governor Schwarznegger to issue Executive Order S-3-05 on June 1, 2005. *See* F.Chung et al. 2006 at Appendix 1.7. The Executive Order called for specific emissions reductions and a periodic update on the state of climate change science and its potential impacts on sensitive sectors, including water supply, public health, coastal areas, agriculture and forestry. The Executive Order established the following greenhouse gas (GHG) emissions targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. A recent piece of legislation, the California Global Warming Solutions Act of 2006 (AB 32), places a cap on California’s greenhouse gas emissions from utilities, oil refineries, and other major global warming polluters and thus brings the state closer to meeting these targets.

In response to Executive Order S-3-05, the California Environmental Protection Agency (CalEPA) formed a Climate Action Team with members from various state

agencies and commissions, The Team has issued a series of reports, including a March 2006 Climate Action Team Report to Governor Schwarznegger and the Legislature. This and other reports issued by CalEPA, the California Energy Commission (CEC), Department of Water Resources and other California agencies are available at <http://www.climatechange.ca.gov/documents/index.html> and should be used by local jurisdictions like the City of Banning in preparing environmental documents under CEQA.

Some of the major impacts identified in recent reports include:

- Reduction of Sierra snowpack up to 90 percent during the next 100 years threatens California's water supply and quality as the Sierra accounts for almost all of the surface water storage in the state.
- Impacts to the health of Californians due to increases in the frequency, duration, and intensity of conditions conducive to air pollution formation, oppressive heat, and wildfires. Increasing temperatures from 8 to 10.4°F, as expected under the higher emission scenarios, will cause a 25 to 35 percent increase in the number of days Californians are exposed to ozone pollution in most urban areas. This will slow progress toward attainment of air quality standards and impede many of the state's efforts to reduce air pollution. Temperature increases are likely to result in an increase in heat-related deaths. Children, the elderly, and minority and low-income communities are at greatest risk.
- Potential impacts from limited water storage, increasing temperatures, increased carbon dioxide concentrations, pests and weeds threaten agriculture and its economic contribution to the state. Direct threats to the structural integrity of the state's levee system would also have immense implications for the state's fresh water supply, food supply, and overall economic prosperity.
- Erosion of our coastlines and sea water intrusion into the state's delta and levee systems may result from a 4 to 33-inch rise in sea level during the next 100 years. This will further exacerbate flooding in vulnerable regions.
- Increasing temperatures and pest infestations would make the state's forest resources more vulnerable to fires. Large and intense fires threaten native species, increase pollution, and can cause economic losses.
- Increasing temperatures will boost electricity demand, especially in the hot summer season. By 2025 this would translate to a 1 to 3 percent increase in demand resulting in potentially hundreds of millions of dollars in extra energy expenditures

CalEPA 2006; Cayan et al. 2006; Chung 2006; Drechsler et al. 2006.

The precise nature of the impacts over the next decades will depend upon whether global greenhouse gas emissions continue to increase at current rates, or whether the current rate of increase is slowed, and emissions actually reduced. Scientists model future impacts based on different emissions scenarios (Cayan et al. 2006). Under a low emissions scenario, by the end of this century heat waves and extreme heat in Los Angeles will quadruple in frequency and heat-related mortality will increase two to three times (Hayhoe et al. 2004). Alpine and subalpine forests are reduced by 50-75%, and Sierra snowpack is reduced 30-70% (Hayhoe et al. 2004). Under a higher emissions scenario, heat waves in Los Angeles will be six to eight times more frequent, with heat-related excess mortality increasing five to seven times (Hayhoe et al. 2004). Alpine and subalpine forests would be reduced by 75-90%, and snowpack would decline 74-90%, with impacts on runoff and streamflow that, combined with projected declines in winter precipitation, could fundamentally disrupt California's water rights system (Hayhoe et al. 2004).

As of 2002, California's main source of greenhouse gases was the transportation sector (41.2%) followed by the industrial sector (22.8%), electric power sector (19.6%), agriculture & forestry sector (8.0%), and other sources (8.4%) (Cal EPA 2006). Mitigation of the state's emissions, therefore, will result from addressing each of the sources.

## **5. Tipping Point**

The science of global warming is now sufficiently well understood that experts can accurately predict the future changes that will occur if greenhouse gas emissions and atmospheric concentrations continue to increase. Dr. James E. Hansen, Director of the NASA Goddard Institute for Space Studies, and NASA's top climate scientist, and others have recently published a paper stating that additional global warming of 2°C would push the earth beyond a "tipping point" and cause dramatic climate impacts including eventual sea level rise of at least several meters, extermination of a substantial fraction of the animal and plant species on the planet, and major regional climate disruptions (Hansen et al. 2006).

In order to limit future temperature increases to below 2°C, society must follow the "Alternative" scenario, rather than the "Business as Usual" scenario, with respect to emissions (Hansen et al. 2006). In the Business as Usual scenario, CO<sub>2</sub> emissions continue to grow at about 2% per year, and other greenhouse gases such as CH<sub>4</sub> and N<sub>2</sub>O also continue to increase (Hansen et al. 2006). In the alternative scenario, by contrast, CO<sub>2</sub> emissions decline moderately between now and 2050, and much more steeply after 2050, so that atmospheric CO<sub>2</sub> never exceeds 475 parts per million (Hansen et al. 2006). The Alternative scenario would limit global warming to less than 1°C in this century (Hansen et al. 2006). However, CO<sub>2</sub> emissions have continued to increase by 2% per year since 2000 (Hansen et al. 2006). If this growth continues for just ten more years, the 35% increase of CO<sub>2</sub> emissions between 2000 and 2015 will make it implausible to achieve the Alternative scenario (Hansen et al. 2006). Moreover, the "tripwire between keeping global warming less than 1°C, as opposed to having a warming that approaches the range of 2-3°C, may depend upon a relatively small difference" in anthropogenic

greenhouse gas emissions (Hansen et al. 2006). This is because warming of greater than 1°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 Dec. ¶ 39).

Based on these warnings, it is imperative that we seize all opportunities to reduce emissions.

## 6. The Economic Cost of Carbon

The economic cost of greenhouse gas pollution is the estimated cost of the net impact on economies and societies of long term trends in climate conditions related to anthropogenic greenhouse gas emissions (Downing et al. 2005). The economic cost is often expressed as the marginal cost of climate change impacts, and is usually estimated as the net present value of the impact over the next 100 years (or longer) of one additional ton of carbon emitted to the atmosphere today, and is expressed in dollars (or other currency) per ton of carbon (tc).<sup>13</sup>

The recently released Stern Review on the Economics of Climate Change has conducted one of the most comprehensive reviews to date of the economic costs of climate change, and has concluded that the cost of each ton of carbon emitted into the atmosphere is at least \$85 (Stern 2006.) The clear finding of the Stern Review is that the costs of inaction with regard to greenhouse gas emissions far exceed the costs of controlling them. According to one measure, the benefits of measures to shift to a low carbon economy will be on the order of \$2.5 trillion per year.

The economic cost of greenhouse gas pollution is the estimated cost of the net impact on economies and societies of long term trends in climate conditions related to anthropogenic greenhouse gas emissions (Downing et al. 2005). The economic cost is generally expressed as the marginal cost of climate change impacts, and is usually estimated as the net present value of the impact over the next 100 years (or longer) of one additional ton of carbon emitted to the atmosphere today, and is expressed in dollars (or other currency) per ton of carbon (tc).<sup>14</sup>

Estimating the economic cost of greenhouse gas pollution is a rapidly developing field, and very few studies conducted to date have included any non-market damages such as species extinction, or the risk of potential extreme weather such as hurricanes, droughts, and floods (Watkiss et al. 2005). None have included socially contingent effects, or the potential for longer-term effects and catastrophic events (Watkiss et al. 2005). This indicates that values in the literature are a sub-total of the full economic (or social) cost of greenhouse gas pollution, and therefore by definition an underestimate, though researchers cannot yet say by how much (Watkiss et al. 2005).

A report released at the end of 2005 Researchers have concluded that \$64/tc (year 2000) is a reasonable figure for decision makers to use as a lower benchmark of the

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<sup>13</sup> The cost can also be expressed per ton of carbon dioxide, where 1tc=3.664t CO<sub>2</sub>.

<sup>14</sup> The cost can also be expressed per ton of carbon dioxide, where 1tc=3.664t CO<sub>2</sub>.

economic cost of greenhouse gas emissions (Downing et al. 2005). An upper benchmark is more difficult to deduce from the current literature but the risk of higher values for the social cost of carbon is significant (Downing et al. 2005, Watkiss et al. 2005). Decision makers should use the best available range of values displayed in Table 1.

**Table 1: Economic Cost of Carbon: Values for Use in Project Appraisal (USD per ton carbon) (Source: Adapted from Watkiss et al. 2005:ix)<sup>15</sup>**

<b>Year of Emission</b>	<b>Central guidance</b>	<b>Lower Central Estimate</b>	<b>Upper Central Estimate</b>
<b>2000</b>	\$101	\$64	\$238
<b>2010</b>	\$119	\$73	\$293
<b>2020</b>	\$146	\$91	\$375
<b>2030</b>	\$183	\$119	\$475
<b>2040</b>	\$256	\$165	\$603
<b>2050</b>	\$384	\$238	\$768

Using the central guidance figure and the year 2010 baseline, the cost per ton of CO<sub>2</sub> would be \$32.48. This measure, as well as qualitative measures of environmental and social impacts must be analyzed in the DEIR and taken into consideration when determining what is and is not a feasible mitigation measure or alternative.

### **B. The Draft EIR Entirely Overlooks the Project’s Greenhouse Gas Emissions**

The DEIR is inadequate because it neglects to analyze global warming and the project’s greenhouse gas emissions. The project will result in foreseeable and quantifiable emissions of carbon dioxide, methane, and other greenhouse gases during both construction and the lifetime of the project. These emissions, although relatively small in comparison to worldwide greenhouse gas emissions, will contribute directly and cumulatively to the increase in atmospheric greenhouse gases, and will thus contribute directly and cumulatively to global warming.

Under CEQA, it is irrelevant that the fact that the project’s emissions associated with the project are small in comparison to may be a small component of the state’s total emissions does not relieve the County of its obligation to fully analyze them. On the contrary, CEQA’s cumulative impact analysis requirement exists to capture precisely this type of impact that may be individually small but cumulatively significant. *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App. 3d 692, 721. (“The EIR improperly focused upon the individual project’s relative effects and omitted facts relevant to an analysis of the collective effect this and other sources will have upon air quality.”) Here, the EIR quantifies the project’s cumulative contribution to the emissions of other pollutants, and includes some mitigation measures for those impacts as well as

<sup>15</sup> Figures from Watkiss et al. 2005:ix were converted from GBP (£) to USD (\$) with the exchange rate calculator at [http://coinmill.com/GBP\\_USD.html](http://coinmill.com/GBP_USD.html) on July 18, 2006 and rounded to the nearest dollar.

ultimate conclusions of unavoidable significance. The EIR must similarly conduct an analysis for the project's greenhouse gas emissions. A revised DEIR must calculate the project's greenhouse gas emissions, and then propose measures to avoid, minimize, and mitigate them to the maximum extent feasible. In fact, many of the actions to avoid, minimize, and mitigate greenhouse gas emissions may also save the project proponent money on operating costs the project proponent and homeowners in the long run.

The greenhouse gas emissions of each component and phase of the project must be calculated. For example, the construction phase would include, but not be limited to: (1) the greenhouse gas emissions of construction vehicles and machinery; (2) the greenhouse gas emissions from manufacturing and transporting the project's building materials. ; (3) the greenhouse gas emissions of the project's planning and design. The operation phase would include but not be limited to: (1) the greenhouse gas emission from the heating, cooling, and lighting the office; and (2) the greenhouse gas emissions from the vehicle trips to transport the sewage sludge; and (3) the methane emissions from the composting project itself.

The Draft EIR's Air Quality Section (4.3) does not adequately analyze greenhouse gas emissions, and the document as a whole contains insufficient information for the reader to estimate the project's total greenhouse gas emissions. Section 2.5 (Traffic Numbers and Types of Vehicles) provides that the project will generate 96 daily trips on an average day and will increase to 174 daily truck trips on a peak day. DEIR at 2-18. The revised EIR, once discussing the precise location the waste will originate from, should estimate average trip length and average fuel efficiency of the vehicles and then calculate their carbon dioxide emissions. For example assuming an average trip length of 10 miles and average fuel efficiency of the vehicles equating to .44 kg/per mile of carbon dioxide emissions (Each gallon of gasoline consumed releases approximately burning one gallon of fuel releases 26 pounds of carbon dioxide into the atmosphere.), the project will result in  $15,164 \times 10\text{mi} \times .44\text{kgCO}_2/\text{mi} = 66,722 \text{ kg CO}_2/\text{day}$ , which equates to 73.5 tons  $\text{CO}_2/\text{day}$  and approximately 26,845 tons  $\text{CO}_2/\text{year}$ . The EPA has many different tools available for calculating emissions. They are available at: <http://yosemite.epa.gov/oar/globalwarming.nsf/content/ResourceCenterToolsCalculators.html>; see also [http://pubs.wri.org/pubs\\_description.cfm?PubID=3756](http://pubs.wri.org/pubs_description.cfm?PubID=3756) (which contains calculators for  $\text{CO}_2$  emissions from fuel used for heating and transportation,  $\text{CO}_2$  emissions from purchased electricity,  $\text{CO}_2$  emissions from business travel by air, train, bus and car, and  $\text{CO}_2$  emissions from employee commuting etc.). Calculation of the project's greenhouse gas emissions is the first step to then analyzing and mitigating them.

Luckily, there are many avoidance and mitigation measures available to the project proponent. Adopting these measures will benefit the environment, take the state closer to meeting its greenhouse gas emissions reduction targets, and demonstrate responsible development. These measures may also save the project proponent and future residents of the project site money. Measures to minimize greenhouse gas emissions include:

- Enclosing the facility and capturing methane emissions
- Following the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) or comparable standards for energy- and resource-efficient building during pre-design, design, construction, operations and management. See <http://www.usgbc.org> and links; Alameda County 2005
- Minimizing and recycling construction-related waste
- Using salvaged and recycled-content materials for building
- Installing the maximum possible solar energy array on the building roofs and/or on the project site to generate solar energy for the facility
- Using passive heating, natural cooling, solar hot water systems, and reduced pavement;
- Landscaping to preserve natural vegetation and maintain watershed integrity
- Installing electric vehicle charging stations at the facility
- Constructing the most energy-efficient buildings possible, to decrease heating and cooling costs
- Utilizing the combination of construction materials with the lowest carbon footprint
- Utilizing only Energy Star heating, cooling, and lighting devices, and appliances
- Ensuring that public transportation will serve the site, by constructing bus stops or other facilities and funding the transportation agency if necessary
- After all avoidance and minimization measures have been incorporated, purchasing offset credits for the project's lifetime greenhouse gas emissions

Once all measures to avoid and minimize greenhouse gas emissions have been adopted, the project's remaining greenhouse gas emissions should be calculated, and offsets purchased to mitigate for them. There are many options for purchasing carbon offsets (or credits), including but not limited to the following:

- The Chicago Climate Exchange (<http://www.chicagoclimatex.com/>)
- Climate Care (<http://www.climatecare.org/>)
- My Climate (<http://www.myclimate.org>)
- Climate Friendly (<http://www.climatefriendly.com/>)
- The Carbon Neutral Company (<http://www.carbonneutral.com/>)
- The Climate Trust (<http://www.climatetrust.org/>)
- Renewable Choice Energy  
(<http://www.renewablechoice.com/m/index.php>)

Purchasing mitigation credits to offset the project's unavoidable greenhouse gas emissions is entirely feasible, and is in fact becoming quite common. Early in 2006, Whole Foods announced that it would buy wind energy credits from Renewable Choice Energy to offset 100% of its electricity use (other companies purchasing these credits include Johnson & Johnson, DuPont, Starbucks, IBM, and Safeway), FedEx Kinkos announced it would will increase its "green power" commitment by 67.5 percent to an estimated 40 million kilowatt-hours per year, and Walgreens announced it will install solar-power systems at 96 stores and two distribution centers in California. There is no

reason why this Project cannot mitigate for 100% of its greenhouse gas emissions once all avoidance and minimization measures have been incorporated.

A wealth of additional resources on calculating, avoiding, and mitigating greenhouse gas emissions is available on the internet. Several options include the David Suzuki Foundation at [http://www.davidsuzuki.org/Climate\\_Change/What\\_You\\_Can\\_Do/carbon\\_neutral.asp](http://www.davidsuzuki.org/Climate_Change/What_You_Can_Do/carbon_neutral.asp) and the World Resources Institute at [http://pubs.wri.org/pubs\\_description.cfm?PubID=3756](http://pubs.wri.org/pubs_description.cfm?PubID=3756).

Because the project's greenhouse gas emissions are likely to be significant after calculation given even high number of vehicle trips generated and the methane emissions, a revised EIR must consider and adopt feasible mitigation measures and/or an alternative that reduces the project's contribution of greenhouse gases to the maximum extent feasible. Not only is this required by CEQA, but it will also demonstrate the project proponent and County of San Bernardino's commitment to environmental and community leadership.

### **C. The Draft EIR fails to address legislation AB 32**

AB 32 is a bill recently passed by the California legislature and signed by the Governor to reduce California's emissions and in turn, combat global warming. This bill requires the California Air Resources Board (CARB) to adopt procedures and protocols by 2008 to reduce greenhouse gas emission to 2000 levels by 2010, and to 1990 levels by 2020. The bill requires the CARB to provide an annual report to the Governor and the Legislature on the progress of greenhouse gas emissions, develop compliance and enforcement procedures, and coordinate with state agencies to implement green house gas reduction standards. The County should be taking a pro-active role in this process by limiting greenhouse gas emissions in all new projects and requiring off-sets as well as by encouraging retro-fit of older projects.

In order for AB 32 to be implemented, newly proposed projects that will emit greenhouse gases must consider how the project will abide by the new standards. The project proposed by Nursery Products is especially subject to such considerations since the area where it is proposed to be developed has poor air quality and the project itself will create significant emissions due to truck travel, business operations. and composting.

## **VIII. THE DRAFT EIR FAILS TO ADEQUATELY ANALYZE OTHER IMPACTS**

The Draft EIR is invalid because it fails to adequately analyze and mitigate impacts to the following: aesthetics, agricultural resources, geology, soils, land use, mineral resources, noise, population, housing, public services, recreation and transportation/traffic.

## **IX. THE DRAFT EIR'S ANALYSIS OF CUMULATIVE IMPACTS IS INADEQUATE**

The list of other current or future projects, presented in order to determine cumulative effects, is underinclusive for the purpose of satisfying CEQA requirements for the EIR. The Draft EIR provides mere conclusory statements. However, CEQA requires that the discussion must be more than a conclusion "devoid of any reasoned analysis." *Whitman v. Board of Supervisors* 88 Cal.App.3d 397, 411 (1979). The MDAB already suffers from environmental degradation due to poor air quality. Additionally, it is habitat to a number of endangered and sensitive species. There are a number of other projects located in the nearby vicinity of the proposed project and its alternatives that also contribute or will contribute significant impacts to the local environment. However, these impacts are not listed in the Draft EIR and the list of cumulative projects that is provided simply concludes that most impacts as not applicable. Other proposed projects in the area that should have been analyzed for their cumulative impacts include, but are not limited to, the following: expansion of the Barstow landfill; the Barstow casino proposal, and the P&V Enterprises proposal. Each of these projects will also have significant impacts on air quality, water resources and water quality, biological resources, and traffic.

## **X. CONCLUSION**

In summary, the project cannot proceed in violation of local and State laws. The current Draft EIR has not adequately disclosed, analyzed, avoided, or minimized and mitigated the environmental impacts of the proposed project. Because of the document's shortcomings, the public and decision makers cannot make informed decisions about the proposed project's impacts in areas including biological resources, air quality, water resources and water quality, global warming, or cumulative impacts. Should the County wish to move forward with the proposed project, the Center hopes to receive a revised Draft EIR.

Please include the Center for Biological Diversity, on all mailing lists for all information about this project. Notices and documents should be addressed to: The Center for Biological Diversity, 1095 Market St. Suite 511, San Francisco, CA. 94103, Attn: Lisa Belenky. If you have any questions please do not hesitate to contact Lisa Belenky, Staff Attorney, at (415) 436-9682. Thank you very much for your consideration of these comments.

Sincerely,

Hallie Albert  
Legal Fellow  
Center for Biological Diversity

cc: (without exhibits)

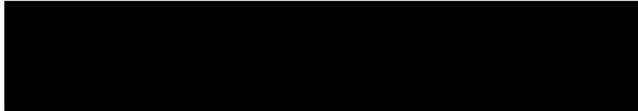
Field Supervisor  
USFWS- Ecological Services



State Water Resources Control Board  
Division of Water Rights



California Department of Fish and Game  
Eastern Sierra – Inland Deserts Region



California Department of Fish and Game  
Eastern Sierra – Inland Deserts Region



**List of Exhibits and References:**

EXHIBITS:

- Exhibit 1: Fish and Wildlife Service. 1994. Desert Tortoise (Mojave population) Recovery Plan. U.S. Fish and Wildlife Service, Portland, Oregon.
- Exhibit 2: Battersby, Marguerite, City Attorney for the City of Adelanto: *Letter to Daniel Avera/Nursery Products Composting Facility, City of Adelanto* (Nov.7, 2003).
- Exhibit 3: Albritton, D.L., L.G. Meira Filho, U. Cubasch, X. Dai, Y. Ding, D.J. Griggs, B. Hweitson, J.T. Houghton, I. Isaksen, T. Karl, M. McFarland, V.P. Meleshko, J.F.B. Mitchell, M. Noguer, B.S. Nyenzi, M. Oppenheimer, J.E. Penner, S.Pollonais, T. Stocker and K.E. Trenberth. 2001. Technical Summary. Pp. 21-83 *In: Climate Change 2001: The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the*

*Intergovernmental Panel on Climate Change* [Houghton, J.T., Y. Ding, D.J. Griggs, M. Noguer, P.J. van der Linden, X. Dai, K. Maskell, and C.A. Johnson (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. 881 pp.

- Exhibit 4: Parmesan, C. and H. Galbraith. 2004. Observed impacts of global climate change in the U.S. Pew Center on Global Climate Change. 56 pp.
- Exhibit 5: Walther, G.R, E. Post, P. Convey, A. Menzel, C. Parmesan, T.J.C. Beebee, J.M. Fromentin, O. Hoegh-Guldberg and F. Berlein. 2002. Ecological Responses to Recent Climate Change. *Nature*. 416:389-395. (March 28, 2002).
- Exhibit 6: Harvell, C.D., C. Mitchell, J. Ward, S. Altizer, A.P. Dobson, R.S. Ostfeld, and M. Samuel. 2002. Climate Warming and Disease Risks for Marine Biota. *Science*. 296:2158-2162. (June 21, 2002).
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- Exhibit 8: Hansen, J. M. Sato, R. Ruedy, K. Lo, D.E. Lea, and M. Medina-Elizade. 2006. Global Temperature Change. Proceedings of the National Academy of Sciences of the United States of America. 103: 14288-14293. (September 26, 2006).
- Exhibit 9: Stern Review: The Economics of Climate Change, 2006.
- Exhibit 10: Assembly Bill, 32.

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