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December 16, 2013

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission (FERC)
888 First Street NE, Room 1A
Washington, DC 20426

Regarding: FERC's draft Environmental Impact Statement
for the proposed Sierrita Pipeline Project
Docket Numbers: CP13-73-000 and CP13-74-000

Dear Ms. Bose:

Thank you for the opportunity to comment on the draft Environmental Impact Statement (DEIS) for the proposed Sierrita Pipeline Project. These comments on FERC's DEIS are being submitted by the Altar Valley Conservation Alliance (AVCA), which is a collaborative conservation organization of ranchers and other agriculturalists living and working in the Altar Valley. In 1995, Altar Valley ranchers and agriculturalists rallied together as neighbors with the same vision: *conserving the Altar Valley for future generations*. Development pressures loomed as Tucson sprawled outward and the watershed was stymied by resource management conflict. The desire to leave the next generation with an open, healthy working landscape provided the rich soil from which the Alliance sprouted.

From the beginning, the newly formed alliance of neighbors reached out to land and resource agencies with responsibilities in the watershed. People gradually became acquainted, found common ground, and worked to respect differences. Finally, these concerned parties agreed to take on collaborative projects to protect the land and lifestyles they loved. The Alliance was incorporated as a 501(c)3 in 2000.

Today, the Alliance is a strong presence in the Altar Valley. The Alliance has enabled the watershed to evolve into a dynamic working landscape and laboratory. Funding is in place for a variety of restoration projects. A valley-wide prescribed fire plan is in place and continues to grow. Arroyo restoration and water harvesting from ranch road workshops are held regularly. With the Alliance's influence, relationships that either did not exist or were tenuous at best are now respectful and mutually beneficial.

Altar Valley partners have transcended late 20th century conflict between grazing and environmental protection. Pima County is a key player in the valley landscape, as over 200,000 acres of agricultural land that could have been sold into development have instead become part of the Maeveen Behan Conservation Lands System. The Buenos Aires National Wildlife Refuge has become a partner, rather than an adversary. Cowboys and conservationists have

joined forces to create 21st century history that celebrates and practices the best of the old and new ways of taking care of land, wildlife, and people.

The Alliance's vision and efforts to conserve the Altar Valley as an open, working landscape are in fundamental conflict with Kinder Morgan's vision of the Altar Valley as a utility corridor. As proposed, we see no benefit to the Altar Valley itself nor southern Arizona, only destruction of a landscape that individuals both within and outside of the valley have been working for many years to keep open and healthy.

From the beginning of the application process, the Alliance questioned the basic need for the proposed Sierrita Lateral pipeline to travel through the Altar Valley on its way to the U.S.-Mexico border and the narrow focus on Sásabe as the border crossing point. In our scoping comments, we asked that FERC's DEIS concerning the proposed Sierrita Lateral project include a thorough analysis and consideration of both a no action alternative and alternatives that might emerge from the scoping process which cross the U.S./Mexico border at locations other than Sásabe, in addition to the east and west routes proposed by Kinder Morgan.

With the release of the DEIS in October, we were disappointed to see that it contained many flaws. The analysis of purpose and need and of alternatives continued to be artificially narrowed by the applicant's desire to cross the U.S./Mexico border at Sasabe and is now down to one action alternative. The DEIS's description of the proposed action, including Sierrita's plans and procedures, and the DEIS's environmental analysis should be improved to provide a detailed description of the proposed action and its impacts.

A considerable amount of significant information is still missing from the DEIS and the public needs an opportunity to review and comment on this information as integrated into a revised or supplemental DEIS, prior to the release of a final EIS. To the extent that there is information that is missing or incomplete because it is not reasonably obtainable, FERC needs to comply with the regulation on incomplete and unavailable information. The DEIS also contains analyses based on information that is just plain wrong. Analyses suggesting that major impacts will fall below a "significance" threshold are often based on incorrect assumptions. Cumulative effects are not well addressed and transboundary effects are slighted.

Furthermore, and perhaps most frustrating to us as participants who have invested a great deal of time in FERC's process, the DEIS reflects a very disturbing failure to take into account comments by AVCA and other parties, including government agencies, already proffered on the record. Proposed mitigation, despite being the subject of a public meeting in June, 2013, is described in broad, general sweeping terms, unrelated to the actual landscape. In that regard, specific suggestions by AVCA members and representatives of local government and tribal agencies made at that meeting have gone unaddressed. The description of proposed mitigation, along with a realistic assessment of the proposed mitigation being accomplished and succeeding and an analysis of impacts if mitigation is not implemented and/or fails to achieve the intended goals, must be included in the analysis.

The very existence of a 600,000 plus acre open working landscape is a rarity these days, particularly so close to a major urban area. Agricultural operators and the array of public and private partners who share management responsibility and/or interest in the valley have worked increasingly well together to enhance the ecological and agricultural potential of the valley, particularly since the late 1970s when the US Natural Resource Conservation Service rangeland monitoring program began in earnest. A great deal of work remains, but the Altar Valley is extremely valuable in that we still have the chance to do this work, thanks to the open

nature of the landscape. This place deserves the most sophisticated and thoughtful land-use planning possible.

A consultant working with AVCA has contacted a number of practitioners whose work deals with natural gas pipelines at both the U.S.-Canadian border and U.S.-Mexican border and globally. Based upon such contacts to date, that consultant has been unable to identify any transboundary pipeline situation in which the pipeline is constructed in one country prior to the conclusion of the decisionmaking process in the other country. While a corporation may make a decision to assume business risks, the situation we now face is bad public policy and puts an especially heavy burden on FERC to conduct its alternative analysis in a thoughtful, open and comprehensive manner, including due consideration of the no action alternative, to ensure both the appearance and reality of an unbiased, objective decisionmaking process.

The cumulative effect of the deficiencies in this DEIS is of such a magnitude that FERC should notice and prepare a revised or supplemental draft EIS. Our discussion of these issues and numerous other problems with the DEIS are enumerated in the pages that follow.

Sincerely,

Patricia King
President
Altar Valley Conservation Alliance

Mary Miller
Vice-President
Altar Valley Conservation Alliance

Detailed Comments of the Altar Valley Conservation Alliance on the Sierrita Pipeline Project Draft Environmental Impact Statement

I. The Purpose and Need Set Forth in the Draft EIS Is Inappropriately and Prejudicially Constrained, Contrary to the Purposes and Requirements of the National Environmental Policy Act

In the DEIS, FERC confuses the applicant's desires with the requirement for FERC to articulate the purpose and need of the project being analyzed in the EIS. It does so by analyzing only one action alternative – the western route between Tucson and Sasabe. All routes outside of the Altar Valley are artificially made more environmentally and financially costly by requiring that "all routes go to Sasabe, Arizona". Given this analytical mindset, the applicant's proposed route thus becomes the only reasonable alternative. However, there is nothing inherent about the need to reliably transport natural gas from the United States to Mexico, or, more specifically, from the United States to Guaymas and Puerto Libertad, Sonora, that requires the pipeline to cross the U.S. Mexico border at Sasabe, Arizona.

The applicant's asserted "need" to cross at Sasabe is self-inflicted. We understand that the applicant is responding to a situation in which the Mexican ministry, the Comisión Federal de Electricidad (CFE) awarded two contracts to Sempra International's Mexican business unit to construct, own and operate an approximately 500-mile (820 kilometers) pipeline network connecting the northwestern states of Sonora and Sinaloa. Sierrita's proposed lateral pipeline would interconnect with this pipeline network. CFE specified that a new U.S. pipeline would be required to terminate at Sasabe and connect existing natural gas transmission infrastructure in the United States to the planned pipeline in Mexico. In that regard, AVCA notified FERC immediately upon reading Kinder Morgan's announcement that it and El Paso Natural Gas Company had entered into an agreement with companies in Mexico that required that a new pipeline to be constructed in the U.S. would terminate at Sasabe, Arizona. In our letter of December 13, 2012 (Docket No. PF12-11-000, Accession Number 20121213-5149), AVCA warned that the applicant's actions in entering into this agreement appeared to be a violation of 40 C.F.R. § 1506.1(a) prohibiting taking actions concerning a proposed project that would have an adverse environmental impact or limit the choice of reasonable alternatives until the Record of Decision is signed. We asked FERC, per guidance from the Council on Environmental Quality, to take appropriate action to rectify the situation. A copy of that letter is attached to these Comments as Appendix A.

The problem that AVCA identified in the December 13, 2012, letter referenced above is now manifested in this DEIS. The agreement entered into by the applicant has resulted in every possible crossing from the United States to Mexico except Sasabe being characterized as

unreasonable. Rather than border security, environmental or related social or economic factors, or other matters associated with the U.S. public's "convenience and necessity" shaping the statement of purpose and need, FERC has adopted one criterion only – the applicant's preference. This puts us – U.S. citizens expecting our federal agencies to uphold U.S. law – at a serious disadvantage – and calls into question the legality of FERC's analytical approach and resulting conclusion(s).

U.S. law, including NEPA, cannot be implicitly modified by the acts of a foreign ministry or an agreement between private parties. The Court of Appeals for the Ninth Circuit has been clear that an agency cannot craft a purpose and need statement so focused on the applicant's interests that it results in an unduly narrow range of alternatives. In *National Parks & Conservation Association v. Bureau of Land Management*, 606 F.3d 1058 (9th Cir. 2010; petition for rehearing denied (Pet. App. 275-279); petition for *certiorari* in the Supreme Court, denied), the Bureau of Land Management (BLM) was responsible for processing an application for landfill that Kaiser Eagle Mountain, Inc., wanted to build in the southern California desert on land that it owned and on which it had conducting mining activities. As part of its plan, Kaiser wanted to exchange parcels of private land for BLM land surrounding the proposed site of its landfill. BLM evaluated the proposal in an EIS. The purpose and need statement in the EIS stated that the primary purpose of the project was to: i) develop a particular type of landfill that would meet projected long-term demand for landfill capacity in Southern California; ii) provide a long-term income source from the development of a nonhazardous municipal solid waste landfill; iii) find an economically viable use for the existing mining by-products at Kaiser's mine site; and iv) provide long-term land use and development goals and guidance for the area. BLM considered six alternatives in detail, including the landfill on Kaiser's land only, landfill development without the land exchange and various alternatives dealing with transportation and waste reduction.

The Court found that three of the four stated objectives reflected in BLM's purpose and need statement reflected Kaiser's needs, not BLM's. While acknowledging that agencies have an obligation to consider a private company's needs, the Court pointed out that, "Requiring agencies to consider private objectives, however, is a far cry from mandating that those private interests define the scope of the proposed project." In that regard, the Court observed that the focus on the private applicant's needs inappropriately resulted in a constrained range of alternatives. While BLM had identified several alternatives that would have been responsive to the one legitimate agency need identified in the purpose and need statement (permitting a landfill to meet demand), other alternatives, seemingly reasonable, were not analyzed in detail because they failed to meet Kaiser's private needs. Accordingly, the Court held that:

> "Our holdings in *Friends* and *Carmel-By-The-Sea* forbid the BLM to define its objectives in unreasonably narrow terms. The BLM may not circumvent this proscription by adopting private interests to draft a narrow purpose and need statement that excludes alternatives that fail to meet specific private objectives, yet that was the result of the process here. The BLM adopted Kaiser's interests as its own to craft a purpose and need statement so narrowly drawn as to foreordain approval of the land exchange. As a result of this unreasonably narrow purpose and need statement, the BLM necessarily considered an unreasonably narrow range of alternatives. We therefore affirm the district court's grant of summary judgment on both the "purpose and need" and reasonable range of alternatives" claims under NEPA."

In a case involving a company's proposed plans for oil and gas exploration in an area of Utah, the lead agency for NEPA purposes, BLM similarly gave credence to the company's claim that it could not undertake the exploration without constructing new roads, despite considerable

public comment suggesting otherwise. BLM argued that the company's experts should get deference, despite its lack of an independent analysis of the public's suggestions of alternatives that would avoid construction on intact soils. In its decision, the Court pointed out that while an agency must consider the applicant's needs and goals when shaping its own purpose and need statement, "that obligation does not limit the scope of the agency's analysis to what the applicant says it needs." *Southern Utah Wilderness Alliance v. Norton*, 237 F. Supp. 2d 48 (D.D.C. 2002).

Consistent with the above holdings, in *Simmons v. U.S. Army Corps of Engineers*, 120 F.3d 664 (7th Cir. 1997), the Corps of Engineers evaluated an application for permission to build a dam and reservoir. Both the applicant and the Corps defined the purpose of the proposed action as furnishing a supply of water to particular localities from a new lake. When the Corps prepared its EIS, all alternatives were premised on the idea of a supply of water from a single source. However, the Court of Appeals held that the Corps unduly constrained the statement of purpose and need: "An agency cannot restrict its analysis to those 'alternative means by which a particular applicant can reach his goals.' *Van Abeema*, 807 F.2d at 638. . . ". The Court explained that, "The public interest in the environment cannot be limited by private agreements" and, "This is precisely what the Corps did in this case." Suffice it to say, that is also precisely what FERC is doing in this instance with respect to the Sierrita Pipeline Project.

II. The Range of Alternatives Fully Analyzed in FERC's Draft EIS Inappropriately Excludes Other Reasonable Alternatives

The requirement for a federal agency to analyze alternatives when preparing an environmental impact statement (EIS) under NEPA is a critical requirement of the law. Absent the requirement to analyze alternatives, the "NEPA process" would simply be a documentation of the potential effects of a proposed action, possibly with the identification of some mitigation. That is precisely what has happened in this DEIS. The only fully analyzed alternative is the one proffered by the applicant.

Congress passed NEPA in 1969 to, among other things, articulate this country's national environmental policies and to establish an analytical process to inform federal agency decisionmaking. The only requirement identified in the law twice relates to the need to analyze alternatives. More specifically, Congress directed federal agencies to include "alternatives to the proposed action" in the document that has come to be known as an environmental impact statement (EIS). 42 U.S.C. § 4332(C). Agencies were also instructed in NEPA to, "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. § 4332(E).

The Council on Environmental Quality's Regulations and Guidance

The Council on Environmental Quality (CEQ), the agency with oversight over the NEPA process for the executive branch of the federal government, promulgated regulations that implement the procedural provisions of the law and are binding on all federal agencies. 40 C.F.R. §§ 1500-1508. Those regulations reflect the statutory emphasis on the alternatives requirement and in unusual language for government regulations, characterize the alternatives section of an EIS as "the heart of the environmental impact statement." 40 C.F.R. § 1502.14 (emphasis added). The result of a good alternatives analysis, as characterized by the regulation, is analysis that will provide a "clear basis for choice among options by the decisionmaker and the public." To achieve that, agencies are directed to:

"(a) rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
(b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
(c) Include reasonable alternatives not within the jurisdiction of the lead agency.
(d) Include the alternative of no action.
(e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.
(f) Include appropriate mitigation measures not already included in the proposed action or alternatives." 40 C.F.R. 1502.14 (a-f).

As the executive branch overseer of the NEPA process, CEQ issues guidance regarding NEPA implementation, interpreting the law and guiding the practice. One of the most often referenced guidance documents, issued shortly after promulgation of its executive branch-wide regulations, is CEQ's "Forty Most Asked Questions" guidance document. The first seven out of the Forty Questions deals with the alternatives analysis requirement. Of particular importance and relevance here is Question Two and CEQ's answer:

2**.** If an EIS is prepared in connection with an application for a permit or other federal approval, must the EIS rigorously analyze and discuss alternatives that are outside the capability of the applicant or can it be limited to reasonable alternatives that can be carried out by the applicants?

"Section 1502.14 requires the EIS to examine all reasonable alternatives to the proposal. In determining the scope of alternatives to be considered, the emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant."
(Question 2a, emphasis added). *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations", published at* 46 *Fed. Reg*. 18026.

There is a considerable body of case law that has expounded on this very fundamental NEPA requirement. Indeed, several of the earliest "landmark" cases under NEPA addressed this issue and emphasized its centrality to the NEPA process. Recent case law continues to affirm the importance of alternatives. In *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800 (9th Cir. 1999), the Ninth Circuit considered a proposed land exchange evaluated in an EIS that contained "only a 'no action'" alternative along with two virtually identical alternatives", after eliminating three other alternatives from detailed study. The lead agency balked at considering an alternative that would have achieved the purpose and goal of the private sector proponent but that was not within its authority to achieve. The Court found that argument unacceptable remanded the case back to district court and enjoined any activities implementing the proposed action until a full range of alternatives (and an adequate analysis of cumulative effects) was prepared and circulated for review and comment. *Id.* at 812-815. In *Davis v. Mineta*, 302 F.3d 1104 (10th Cir. 2002), the Court invalidated an environmental assessment that considered only the "no action" alternative and the proposed action. And in, *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 538 F.3d 1172 (9th Cir. 2008) which involved the promulgation of CAFÉ standards and focused on the climate change of various possible standards, the Court similarly found fault with the failure to consider a

reasonable alternative suggested by a commentator on the draft EIS. On review, the Court held that the agency needed to analyze a wider range of alternatives in a new EA or EIS.

In addition, the requirement to consider alternatives has been upheld in the context of cross-boundary linear projects, even when it involves considering alternative methods of implementing actions in Mexico. In *Border Power Plant Working Group v. Department of Energy*, 260 F. Supp. 2d 997 (S.D. Cal. 2003), the Department of Energy (DOE) analyzed two location alternatives and the "no action" alternative in an EIS for granting Presidential Permits and a right-of-way for electrical transmission lines intended to cross the California-Mexico border to connect new power plants in Mexico with the power grid in southern California. Plaintiffs argued that the agencies should have considered alternatives conditioned on the commitment of the applicant to implement certain mitigation measures with respect to plants in Mexico intended to export power back into the United States. In its arguments presented in court, DOE argued that "international sensitivities" precluded conditioning the permits in this manner. The Court explained that to the extent that was the case, the reasoning should be presented in the NEPA analysis rather than a litigation brief. Further, the Court refuted the notion that, "the federal government's conditioning of a permit to construct transmission lines within the government's jurisdiction to ameliorate negative environmental effects within the United States offended international principles of law." *Id*. at 1030-31.

Here, AVCA seeks only to implement U.S. law on U.S. soil. Whatever the factors involved in the decision to commence clearing of the right-of-way and construction of the pipeline in Mexico, that decision cannot modify the application of NEPA to FERC's decision any more than FERC can reverse a decision of a Mexican government agency. Both countries must respect each other laws and decisions. In this situation, a Mexican agency appears to have made a decision that is being implemented prior to a required decision and authorization by FERC. A decision to fully analyze and consider routes outside of the Altar Valley would not negate that agency's decision, nor does it require that U.S. law be forced into consideration of only a route that would cross the border at Sasabe, Arizona. Rather, the Mexican agency's decision required that the pipeline in Mexico commence in Sásabe, Sonora. A pipeline that crossed the border at, for example, Nogales Ambos, could, with the appropriate authorization from Mexican authorities, then proceed back to Sásabe, Sonora. In other words, the decision on how to achieve compliance with the action of a Mexican entity should be made in Mexico; the decision on reasonable alternatives for the pipeline route in the U.S. should be made in accordance with U.S. law.

Further, while we believe that the pipeline should be sited outside of the Altar Valley all together, we also believe that FERC should more fully analyze the eastern route. We are well aware of the challenges involved in using that route. However, we note that the analysis presented in the DEIS along with the analyses of, the U.S. Fish and Wildlife Service's (USFWS) Ecological Service's Office, Pima County and ourselves, all demonstrate that the eastern route has significantly less severe impacts than the "preferred alternative. FERC has a responsibility to analyze reasonable alternatives outside of its own jurisdiction to facilitate consideration of this route. *NRDC v. Morton*, 458 F.2d 287 (D.C. Cir. 1972). An EIS is intended to inform more than just the lead agency. It is possible that the Department of the Interior, the USFWS, the applicant, Congress and other involved and interest agencies and the public could, together, develop a proposal that would meet the USFWS' and the applicant's needs. Indeed, subsequent to the close of the second public comment meeting held on December 14, 2013, we learned that contrary to earlier representations, the applicant's representatives had not met with officials of the Department of the Interior or the U.S. Fish and Wildlife Service in Washington, D.C. about the eastern route nor had the applicant's representatives proffered a serious

mitigation proposal to the U.S. Fish and Wildlife Service in regards to the eastern route. While AVCA continues to feel that the Altar Valley is not the best location for this project, should FERC be inclined to approve a route in the Altar Valley, the eastern route is far superior to the western route in terms of ecological as well as social and economic impacts.

III. There is an Considerable Body of Missing Information that FERC Has Identified and That the Public Needs to Review and Comment on Prior to Publication of the Final EIS

As noted below, we agree with FERC's many requests for additional information related to a variety of important issues that need to be analyzed prior to FERC making a decision about the proposed approvals for this proposed pipeline. However, we, the public, as well as interested and affected agencies, need an opportunity to review and comment on this information prior to publication of the final EIS. The items FERC identified as missing are enumerated below and contain a great deal of missing information that the public should be given the opportunity to review. In that regard, Sierrita waited to file this information until the afternoon of December 16, 2013, thus failing to allow for any meaningful review prior to the close of the DEIS comment period. Thus, neither FERC nor the public nor other federal, tribal, local and state agencies have had any opportunity to review this material. Sierrita's untimely filing should be recognized as precisely that . . . untimely; and, additional time should be allowed for public, agency and tribal review and comment upon Sierrita's filing of earlier today.

> 4-14 / 4.2.1.1: "we recommend that: prior to the close of the draft EIS comment period, Sierrita should file with the Secretary of the Commission (Secretary) revised versions of its Plan and Procedures that addresses FERC staff's comments listed in appendix tables D-1 and E-1 of this draft EIS."
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> 4-21 / 4.2.4: "we recommend that: prior to the close of the draft EIS comment period, Sierrita should file with the Secretary revised versions of its Plan and Procedures that include measures to further protect topsoil piles from heavy rain, flash flooding, and wind erosion during construction in the monsoon season between June 15 and September 30."
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> 4-40 / 4.3.2.6: "we recommend that: prior to the close of the draft EIS comment period, Sierrita should file with the Secretary a table listing by milepost ephemeral washes crossed by the Project that are also connected to and upstream of a wildlife/livestock tank."
>
> 4-42 / 4.3.2.6: "we recommend that: prior to the close of the draft EIS comment period, Sierrita should file with the Secretary the results of its geotechnical investigation at the proposed CAP Canal HDD crossing. Sierrita also should file any revisions to the site-specific plan for the CAP Canal crossing as a result of this investigation."
>
> 4-43 / 4.3.2.6: "we recommend that: prior to the close of the draft EIS comment period, Sierrita should file with the Secretary the feasibility, including an environmental, economic, and engineering analysis, of adopting the HDD method to cross various riparian areas along the pipeline route. Examples of riparian areas to consider for analysis are:
> a. Washes 103 through 107 (generally between access roads AR-R1 and AR-R2);
> b. Wash 142 through Little Thomas Wash (generally between access roads AR-17 and AR-18);
> c. Aros Wash (generally between access roads AR-22 and AR-24);

d. Washes 188 through 195 (generally between access roads AR-24A and AR-26); and
e. La Osa Wash (generally between access roads AR-27 and AR-28)."

4-64 / 4.4.8.2: "we recommend that: prior to the close of the draft EIS comment period, Sierrita should file with the Secretary a revised *Reclamation Plan* and *Post-Construction Vegetation Monitoring Document* that identify:
a. the seed mix and seeding requirements for the seeding methodology it would adopt by milepost (i.e., aerial seeding, broadcast seeding, hydroseeding, or drill seeding); and
b. the time period(s) Sierrita would conduct seeding (e.g., close to the monsoon period and winter rains) as identified through consultations with the FWS, NRCS, and land-managing agency."

4-65 / 4.4.8.2: "we recommend that: prior to the close of the draft EIS comment period, Sierrita should file with the Secretary a revised *Post-Construction Vegetation Monitoring Document* that includes:
a. a commitment to monitor riparian areas (including woody riparian vegetation) for revegetation after construction as well as a description of the monitoring procedures and the criteria for identifying where the monitoring procedures would be implemented;
b. a clarification that Sierrita would salvage saguaro cacti without arms that are less than 9 feet tall and Palmer's agave; and
c. a clarification that Sierrita would confirm survivability of transplanted saguaro cactus and Palmer's agave after the second growing season and would continue to monitor transplanted plants over a 5-year period."

4-67 / 4.4.8.2: "we recommend that: prior to the close of the draft EIS comment period, Sierrita should file with the Secretary:
a. site-specific justifications for each waterbody (including ephemeral washes) and associated riparian area where the construction right-of-way would be greater than 75 feet wide;
b. site-specific justification for each waterbody (including ephemeral washes) and associated riparian area where the ATWS would be less than 50 feet from the banks; and
c. revised alignment sheets that show any changes resulting from items a. and b. above."

4-72 / 4.4.9: "we recommend that: prior to the close of the draft EIS comment period, Sierrita should file with the Secretary a description of how it would access the permanent right-of-way for noxious weed control, vegetation monitoring, and maintenance in areas that have been restored to discourage the unauthorized use of the right-of-way."

4-149 / 4.8.1.1: "we recommend that: prior to the close of the draft EIS comment period, Sierrita should file with the Secretary a list by milepost identifying where it proposes to implement the use of 20 feet of uncleared extra construction right-of-way to place woody vegetation. Sierrita should also:
a. identify the acreage and land use(s) affected by these areas;
b. verify that these areas have been surveyed for biological and cultural resources;
c. verify that sensitive resources (e.g., cultural resources sites, waterbodies, threatened and endangered specifies) would not be affected; and
d. identify any new landowners affected."

4-173 / 4.9.1: “we recommend that: prior to construction, Sierrita should file a statement with the Secretary documenting its consultations with CBP and other applicable law enforcement agencies regarding its Security Plan.”

4-175 / 4.9.2: “we recommend that: prior to the close of the draft EIS comment period, Sierrita should file with the Secretary a write-up describing the criteria for and sequential timing of each type of restoration measure to be installed during construction. The write-up shall address backfilling and final grading (e.g., subsoil and topsoil replacement); revegetation measures (e.g., seeding, planting, transplanting); installation of deterrents to the unauthorized use of the right-of-way (e.g., dirt/rock berms, log barriers, signs, locked gates, mounds/depressions); and placement of permanent erosion control devices (e.g., slope breakers, rock armor/riprap).”

We appreciate that FERC's record will remain open and that the public may still offer comments to FERC on these various reports following the close of the comment period on the DEIS. However, receiving this information as separate documents straight from the applicant is not an acceptable substitute for what is supposed to occur; that is, FERC receives this information, reviews it in its role as an independent regulatory agency, and presents the information integrated into the rest of the analysis of the DEIS for the public and other governmental agencies to review prior to commenting, thus allowing for revisions prior to the release of the final EIS.

Finally, there is other missing information about important topics not covered in the DEIS. For example, the DEIS addresses the public perception of danger caused by the pipeline only in terms of increased illegal traffic and Border Patrol activity. There is no mention made of the public perception of real physical danger related to the pipeline from the threat of *Coccidioidomycosis* (nearly 16,500 cases in Arizona in 2011, up from 1,475 in 1998; Arizona Department of Health Services).

Nor is the fear of pipeline related explosions (see among others “Entire town of Milford, Texas, evacuated after fiery pipeline explosion, LA Times; 14 November 2013) discussed. As the DEIS states, visitors to the Altar Valley; to its guest ranches, to the National Wildlife Refuge and to its small towns come for solitude, open space, unspoiled views and wildlife. They do not come for a 36” pipeline with a 150 ft. right of way which will be visible in an area “from 5 miles to the horizon.”

IV. The Discussion of Monitoring and Mitigation is Inadequate.

In general, the discussion of mitigation measures in the DEIS is woefully inadequate. As FERC knows, the law is clear that:

> “[O]ne important ingredient of an EIS is the discussion of steps that can be taken to mitigate adverse environmental consequences. . . Implicit in NEPA’s demand that an agency prepare a detailed statement on “any adverse environmental effects which cannot be avoided should the proposal be implemented,” is an understanding that the EIS will discuss the extent to which adverse effects can be avoided. . . . More generally, omission of a reasonably complete discussion of possible mitigation measures would undermine the “action forcing” function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects. An adverse effect that can be fully remedied by, for example, an inconsequential public expenditure is certainly not as serious as a similar effect that can

only be remedied through the commitment of vast public and private resources." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 at 351-351 (1989).

While some implementing details of carrying out mitigation measures can be developed after the conclusion of the NEPA process, a mere listing of measures is not sufficient. As one court explained:

> "Although the standard for evaluating the requisite 'hard look' scope is fact-specific, the Ninth Circuit has established some bright-line rules. Most importantly, the EIS must provide easily-accessible detailed information about probable environmental consequences and potential mitigation measures. *Block*, 690 F.2d at 761. This information must be conveyed within the EIS in plain language so that the general public can 'readily understand' the effects of the proposed plan. 40 C.F.R. § 1502.8. Relatedly, the EIS cannot merely assert a perfunctory description of mitigating measures. N*eighbors of Cuddy Mountain*, 137 F.3d at 1380. "A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA." *Id*. (quoting *Northwest Indian Cemetery Protective Ass'n. v. Peterson*, 759 F.2d 688, 697 (9th Cir. 1986). Rather, mitigation must be detailed with enough specificity to "ensure that environmental consequences have been fairly evaluated." *Carmel-By-the-Sea v. U.S.Dept' of Transp.*, 123 F.3d 1142 (9th Cir. 1997).

Further, CEQ has emphasized the importance of mitigation under NEPA, both in terms of promoting efforts to prevent or eliminate damage to the human environment and to meet the requirements of disclosure and analysis for the public, the decision maker and other government agencies. That guidance includes a robust discussion of the need for candor, not only in terms of the ability of the agency to legally undertake or require mitigation but in terms of enforceability and funding for implementation of mitigation commitments. *Memorandum for Heads of Federal Departments and Agencies on the Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact* from Nancy H. Sutley, Chair, Council on Environmental Quality, January 14, 2011.

This DEIS is replete with examples of where FERC staff themselves are requesting additional or revised mitigation plans prior to the close of the DEIS comment period. Much of the information that the FERC staff has requested is precisely the type of information that the informed public, affected parties and local agencies should be able to review and comment on prior to publication of a final EIS. For example, FERC has asked for a revised Post-Construction Vegetation Monitoring Document prior to the close of the comment period. It is good that FERC is asking for a revision; as noted below, we have important concerns about the current draft monitoring plan. However, FERC should review Sierrita's submissions and then provide them as part of a revised DEIS or a supplemental DEIS.

There are a considerable number of examples of pipelines constructed following a process that promised many of the same types of generalized mitigation measures recommended in this DEIS. To our knowledge, there are few, if any, successful examples of on-the-ground mitigation working in the type of arid environment in which we live, especially, for example, in the area of revegetation. FERC should take the high rate of restoration failure experienced with pipeline projects in Pima County into account in evaluating the environmental effects of the proposal and in shaping a monitoring and mitigation program. This information is essential to a reasoned decision by FERC. If FERC believes there is information demonstrating that revegetation has been successful in the types of ecosystems present in the Altar Valley, it should include that information in a revised DEIS or a supplemental DEIS. 40 C.F.R. § 1502.22(a).

While the conclusions in the DEIS are based on the premise that mitigation will be implemented and will be effective, the much more realistic premise is that the mitigation will not be implemented as FERC envisions it, and very importantly, even if it is, it will not be effective. Thus, along with reconsideration of the rosy projections that FERC presents in the DEIS, we ask that FERC supplement this DEIS with analysis and conclusions premised on the very reasonable notion that mitigation will not work in a number of key areas, including erosion, revegetation, and habitat disturbance. We respectfully remind FERC that if information relevant to reasonably foreseeable significant adverse impacts cannot be obtained, the agency has a responsibility to state that, summarize the existing credible scientific evidence which is relevant to the matter, and base its evaluation on research methods or theoretical approaches generally accepted in the scientific community. In this circumstance, moreover, the legal definition of "reasonably foreseeable" includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason. 40 C.F.R. § 1502.22(b). Here, we believe it is much more reasonable to predicate analysis on the probability that revegetation efforts will fail than it is to base conclusions on the remote possibility of their success.

The discussion of monitoring is also significantly incomplete and fails to respond to earlier comments regarding the need to establish a monitoring process that involves both public and private affected parties. Various suggestions have been made to FERC and Sierrita on how this could be accomplished, including comments made at the public meeting held by FERC in June, 2013. None of these ideas have been incorporated into the DEIS as part of an alternative.

AVCA recommends that:

- The monitoring and adaptive management program be expanded to include specific criteria for success and measurement techniques related to surface water and erosion and access management, in addition to vegetation.
- The monitoring and adaptive management personnel be composed of a stakeholder team representing at minimum Kinder Morgan, FERC, ASLD, NRCS, AVCA, Pima County, and BANWR.
- Monitoring and adaptive management activities, administrative and facilitation support for the above-mentioned team, and necessary on-the-ground mitigation treatments should be fully funded by Kinder Morgan, with financial support guaranteed by a bond or other legal and financial mechanism to guarantee Kinder Morgan's financial backing for the life of the project.

V. There Are Important Errors in the DEIS That Lead to Significantly Mistaken Conclusions

It appears that much of the information about rangeland history and health originates in the US Fish and Wildlife (2003) source, which is the BANWR comprehensive management plan. Given that the DEIS fails to fully analyze the eastern or highway route that would cross the BANWR, and that BANWR is involved in the preferred western route only with regard to access roads, it is inappropriate to use the BANWR comprehensive plan as a primary information source for lands outside the boundaries of BANWR.

The DEIS analysis treats the project area in a uniform manner, and fails to recognize that there are extreme differences within the project area related to land use. AVCA suggests that there are three different categories of land use: 1) Developed portion with varying levels of residential and commercial activity between roughly pipeline miles 0 - 18; 2) Highway / utility corridor portion between roughly pipeline miles 18-30; and 3) Greenfield portion stretching from the intersection of the preferred alternative with the Elkhorn Ranch Road south to the border, roughly pipeline miles 30-59. FERC's failure to distinguish between these different areas of land use results in a particularly inappropriate characterization of the "greenfield" portion of the project area.

The DEIS analysis of rangeland health, which is particularly relevant to the greenfield portion of the preferred alternative, is based inappropriately on BANWR information, (which in AVCA's opinion fails to acknowledge the complex historical interactions of human use, climate, and range management knowledge) and completely fails to recognize the context of overall improvement in rangeland health that has been occurring in the Altar Valley, particularly since the 1970s drought. These improvements have been largely due to cooperative work between the agricultural operators and the US Natural Resource Conservation service (NRCS) that involves rangeland health monitoring, Coordinated Resource Management Planning, and provision of technical assistance for ranch and land management activities. AVCA and NRCS will be the first to admit that the Altar Valley remains a work in progress with much work to be done. Surface soil loss, erosion and mesquite encroachment are serious environmental challenges. The existence of these problems makes the valley all the more susceptible to additional environmental impacts from a project such at the proposed Sierrita Pipeline. That said, the Altar Valley is a rarity in today's heavily populated world in that ***it provides the potential for continued restoration and ecological enhancement*** that benefits wildlife habitat, water quality and quantify, carbon sequestration, food production, and profound human experiences derived from time outdoors engaged in recreation whether it be hunting, hiking, or visiting one of the valley guest ranches.

With regard to human foot and vehicle use and potential control of unauthorized use in the project area, the absence of differentiation between the different portions of the project area is very problematic. FERC has whitewashed this issue by characterizing the entire area in the same way and by simply not looking more deeply at travel patterns in the valley. The analysis fails to recognize that unauthorized use in the highway/utility portion of the project has a much better chance of being enforceable due to visual continuity between the pipeline corridor and the Highway 286, which is patrolled many times a day by Border Patrol and occasionally by the Sheriff or other law enforcement. The highway/utility corridor may attract local ATV recreational users, but this use could likely be controlled by fencing. In terms of people or drug smugglers, this route is visible to law enforcement and/or provides few to no advantages over those already available via the highway.

The greenfield portion of the project however, is much more complex. It is true that existing east-west running access roads, all of which Kinder Morgan proposes to use for construction, do have various "tributary" travel ways. These "ranch roads" are used for ranch management, and have become popular areas for hunters to travel and camp. Altar Valley ranchers and the Arizona Game and Fish Department steadily work together to manage this use of the roads. It must be noted however that while there are many of these roads, they are clustered together. There are ***very few north / south running travel ways***, and those that do exist are circuitous and difficult to access. ***The physical presence of the greenfield portion of the preferred western route and its visual presence will institute a profound change in the direction of travel available and attractive to illegal aliens and drug smugglers, and law enforcement who will follow.*** And then once these tracks are created, ranchers and

AGFD lose what little control they have as hunters begin to follow too … and then more roads and trails will evolve from the new travel way created by the pipeline route, and so on.

VI. Important Comments Proffered on the Public Record Have Been Totally Ignored in the DEIS.

AVCA and others have spent a great deal of time providing scoping comments, attending meetings and providing critique of plans provided by Sierrita. The DEIS and Sierrita's plans that were included in the DEIS appendices reflect little of the time and effort the public has invested to inform the process.

For example, the DEIS states that: "Sierrita had discussions with local ranchers and landowners actively working to control erosion in the Project area, and has provided copies of its Plan, Procedures, *Reclamation Plan*, and *Post-Construction Vegetation Monitoring Document* for comment (4-19)." AVCA in turn provided a detailed mark-up of these plans to all interested parties via the FERC public process, which were filed on September 17, 2013. The plans included as Appendices D, F, and G to this EIS are identical to those AVCA commented on months ago, and identical to those discussed at the June public discussion of restoration sponsored by FERC. Additionally, AVCA also attended the restoration meeting held by FERC on June 18, 2013 and filed comments on restoration on July 1, 2013. Sierrita has verbally informed us that they are working on responses, but thus far they are not available for public comment. However, once again, Sierrita's responses are untimely; and, following receipt and careful analysis, may also prove to be inadequate as well.

VII. Because of The Fundamental Mistakes Identified Above, FERC's Conclusions about the Significance of the Impacts Are Frequently in Error

AVCA respectfully disagree with FERC's findings that impacts would be reduced to "less-than-significant levels with implementation of Sierrita's proposed mitigation and the additional measures recommended in the draft EIS" (FERC introduction letter at front of DEIS document). Absent an effective strategy for control of human access, an already challenging restoration/reclamation task becomes even more difficult.

AVCA shares FERC and Sierrita's concerns about bank erosion and/or scour effects on the pipeline itself; however, we feel that conversations regarding bank erosion and/or scour effects should not be limited solely to the impacts to the pipeline. The impacts to the Altar Valley watershed both within and outside of the right-of-way are likely to be permanent (as defined by FERC in this DEIS) and should be fully recognized. The finding of "less-than-significant" does not acknowledge the permanence of the effect on the watershed.

The DEIS fails to provide realistic analysis of expected vegetation impacts. The executive summary suggests that "areas disturbed by pipeline construction would begin to resemble the surrounding area after at least 20 years" (p. ES-7); then the Abella (2010) citations speak to longer time frames of "76 years … [for] full establishment of perennial plant coverage and 215 years to recover species composition typical of undisturbed areas". Throughout section 4.4.8, the DEIS recognizes that climate and a myriad of other influences affect revegetation success.

AVCA agrees with FERC's finding that "continuous traffic along the right-of-way would result in reduced vegetation and restoration success, if not further deterioration of the disturbed

area through road and/or trail formation … Furthermore, the area of impact could likely expand as unauthorized traffic from illegal activities ventures out from the right-of-way into adjacent areas, creating a system of trails." The DEIS clearly acknowledges that while "Sierrita [is committed] to implementing mitigation measures during and following construction to deter unauthorized access to the right-of-way," these mitigation measures "may not completely deter off-road vehicle use of pedestrian traffic along the right-of-way." AVCA is very concerned that foot and vehicular access will severely undermine restoration success, and that the DEIS analysis of impacts is inherently flawed in that it assumes that Sierrita's restoration and access management plans will be effective.

The DEIS fails to reference any studies done on restoration and revegetation for the direct and indirect effects of this type of linear project in an arid desert grassland environment subject to monsoon rains. Credible, scientific evidence justifying the many positive conclusions in this DEIS regarding the potential success of that mitigation is essential to a reasoned decision. FERC must either identify such studies and include it in a supplemental DEIS for public review and comment, or follow the steps outlined in 40 C.F.R. § 1502.22 for incomplete or unavailable information, as discussed in Section IV above.

VIII. There are Important Errors in the Cumulative Effects Analysis

The discussion of cumulative effects is significantly flawed because of mistakes and omissions made in the description of the ecology of the Altar Valley and its history. These mistakes and omissions are so fundamental that they undermine the credibility of the rest of the analysis. We have provided (yet another example of FERC's failure to take into consideration public comments) and continue to provide detailed information about the ecology of the Altar Valley and the past and present restoration efforts. This information should be used to correct these mistakes and omissions. New analysis should be done based on accurate information and provided to the public for review and comment.

IX. The DEIS fails to adequately identify and discuss the conflicts between the proposed action and the objectives of affected local, federal and tribal government agencies.

The DEIS fails to discuss the Altar Valley's significant conservation value within Pima County, which has expended considerable resources to develop a Multi-Species Conservation Plan and the Maeveen Marie Behan Conservation Lands System. It also fails to adequately identify impacts that the western route will have on BANWR and on the Tohono O'odham Nation. This is in violation of 40 C.F.R. 1502.16(c) which requires an agency to discuss in an EIS possible conflicts between the proposed action and the objectives of Federal, regional, State and local land use plans, policies and controls for the area concerned. It also violates FERC's responsibility carry out its trust responsibilities to tribal nations.

X. The Analysis of Transboundary Impacts Is Inadequate

The DEIS has a brief discussion of the need to analyze transboundary effects, but fails to adequately analyze them. The text in the current version of the DEIS regarding transboundary effects is vague and conclusionary and uses the same assumption that all mitigation measures will be implemented and will be effective to reach the conclusion that

impacts across the border will not be significant. There appears to have been no effort to reach out to government agencies in Mexico for assistance with this portion of the analysis, despite the fact that it is the actions of a Mexican agency (CFE) that are purportedly the rationale for analyzing only routes that cross at Sasabe.

Further, the DEIS fails to inform the public of the status of Mexico's environmental analysis. FERC states that it "understands" that the Secretaria de Medio Ambiente y Recursos Naturales has granted an environmental permit authorizing construction of the pipeline and that construction there has begun. Prior to issuing that permit, there should have been a considerable amount of work done in compliance with the law in Mexico that requires environmental impact assessment for major projects such as this one, pursuant to Ley General del Equilibrio Ecologico y la Proteccion al Ambiene. We ask that the environmental impact assessment studies done under Mexico's law be made available to the public and that a map of the pipeline route in Mexico be included.

SPECIFIC COMMENTS ON THE TEXT OF THE DEIS

Specific comments are referenced by: page number / section number / topic.

ES-6 Acreage of impacts on open and developed land

The DEIS states that there would be "impacts on 957.7 acres consisting of primarily open and developed land." The use of the terms "open and developed" does not make sense, as they would appear to be opposites. AVCA recommends that the DEIS recognize that the project occurs in both open and developed areas, but that they are not the same. AVCA recommends that the DEIS clearly differentiate between portions of the project area that are already developed and the area that is open. AVCA recommends that the dividing line between "open" and "developed" occurs when the currently preferred western route alternative leaves the "developed" Highway 286 corridor at the Elkhorn Ranch Road to head south into "open" country that is not developed.

Furthermore, use of land for livestock grazing does not make the area "developed" rather it should be considered "open". An analysis of the Pima County Maeveen Behan Conservation Land System categorization scheme (available at http://www.pima.gov/cmo/sdcp/MSCP/MSCPdocs/MSCP_Public_Draft.pdf) would provide a rigorous scientific basis for a more sophisticated analysis of project impacts relative to land use and its environmental and habitat value.

Section 4.0 Environmental Analysis

4-1 / 4.0 A fundamental flaw in analysis is the assumptions regarding impacts of human foot and vehicular travel on and adjacent to proposed pipeline right-of-way.

FERC states that "conclusions … are based on [FERC's] analysis of environmental impacts and … assumptions". AVCA remains extremely concerned that the reclamation and mitigation measures described thus far and the improvements recommended by FERC are unlikely to be successful, particularly given that controlling human foot and vehicular traffic on the right-of-way may well not be possible. Furthermore, the plans that Sierrita has presented thus far are not adequate, as evidenced by FERC's request for revisions by the end of the DEIS comment period. Neither AVCA nor other public entities have had the opportunity to review these updates; and even with review, everyone acknowledges that adaptive management will be essential.

AVCA thus recommends that FERC's analysis of impacts reflect two possible futures:

- one in that assumes reclamation and restoration are successful (that is FERC's current analysis);
- and an alternate future that assumes less reclamation and restoration success.

This less successful restoration future must be fully analyzed, based on the absence of restoration success and human access control at other southern Arizona pipeline locations and the border security challenges of the Altar Valley; and this analysis should stretch beyond the right-of-way to include adjacent lands and include the full scope of indirect and cumulative effects.

4-3 / 4.1.1 Surface contours and drainage patterns

The DEIS states that Sierrita would "would restore surface contours and drainage patterns as closely as possible to preconstruction conditions." This statement is quite vague, especially for steep areas. A more thorough plan should be developed. The degree to which restoration can be done to return the land to "preconstruction" condition determines the significance of impacts of the project and long-term revegetation success and should not be taken lightly.

4-8 / 4.1.3.2 Use of rock excavated from trench

AVCA notes that rock excavated from the trench would either be considered debris and removed from the site, or utilized as a right-of-way deterrent. AVCA agrees that rock could be used as a right-of-way deterrent. AVCA also recommends that strategically placed rock can be a very useful material for erosion control. Thus, right-of-way access deterrent and erosion control goals could be complementary, with careful design and installation. However, the DEIS and supporting plans do not provide adequate detailed information to evaluate what Sierrita plans to do on the ground, much less whether it will be successful. AVCA recommends that proposed use of excavated rock on the project site be described in much more detail. AVCA also notes that erosion control structure building often requires rocks of different and relatively uniform sizes. Sierrita should consider whether re-sizing on-site rock would make it more useful for the possibly compatible goals of access deterrence and erosion control. Sierrita should also consider importing rock to construct permanent erosion control structures. Regardless of the rock source, plans and designs for use of rock should be site specific, clearly documented and available for public review.

4-12 / 4.2.1.1 Analysis of potential for head-cutting not included in DEIS.

The discussion of erosion potential lacks discussion of headcuts and their potential for contributing to erosion impacts upstream and downstream of the right-of-way as well as laterally within the right-of-way.

4-13 / 4.2.1.1 Absence of permanent erosion control structures

Sierrita plans and procedures reference use of temporary structures for erosion control, using temporary tools. FERC should require a more thorough description of permanent approaches to erosion control, using permanent tools such as rock.

4-14 / 4.2.1.1 Assertion that ephemeral washes would likely be dry

AVCA strongly disagrees with Sierrita and FERC's shared "assertion that ephemeral washes would likely be dry at the time of crossing". Given Sierrita's proposed start of construction in early summer, and in-service project for fall 2014, it appears to that construction would be occurring during the monsoon season. Operational planning and analysis of erosion potential, both short and long term, should provide be based on a more realistic assessment of southern Arizona's potential for quick, hard, unpredictable and rapidly moving summer monsoon storms.

4-15 / 4.2.1.1 Return of ephemeral wash banks to stable condition

The DEIS and its appendices do not contain clear nor specific information about how Sierrita intends to assure that "ephemeral wash banks would be returned to a stable condition after construction". This is a significant flaw. Many of the DEIS impacts finding appear to be based on the assumption that revegetation measures will be successful; and based on available information AVCA finds this assumption and thus the validity of FERC's analysis to be flawed.

FERC also fails to include specific criteria about what constitutes stable condition. While there are minimal statements related to revegetation goals ("i.e., that a plant cover similar to that of the areas adjacent to the Project right-of-way that are not disturbed by Project construction has been established" (4-16 / 4.2.1.2)), there are no goals that describe what constitutes "stable condition" from a soil and watershed condition point of view. Watershed stability goals should be available for public review.

4-15 / 4.2.1.2 Missing details regarding revegetation and soil surface roughening

FERC acknowledges that soils in the project area have "poor revegetation potential" and that "extra efforts and time are necessary to restore these areas to preconstruction conditions"; but FERC does not provide detail about these necessary extras. The DEIS lacks specific information about how soil surface roughening would occur. In addition, how do these measures integrate with temporary and permanent erosion control treatments and access-control treatments? In general, this section exhibits the continued lack of specific definitions of success and specifics about revegetation that are present throughout the applicant's plans.

4-15 / 4.2.1.2 Monitoring and landowners & partners

There are other landowners in addition to FERC and ASLD who should be involved in evaluating revegetation success, including AVCA, US Natural Resource Conservation Service, Arizona Game and Fish Department, Pima County, and Buenos Aires National Wildlife Refuge.

4-16 / 4.2.1.4 Soil ripping and plowing details missing

There are many places in the DEIS and Sierrita plans that refer to treatment of the soil surface, such as the contour ripping / plowing referred to in this section. Other sections of the DEIS and Sierrita's various plans refer to other soil surface or surface contour treatments such as soil roughening, water bars, and alternating dips and furrows (for access control).

In general, all treatments of the soil surface need to be integrated and described in full so that it is clear what will actually occur on the ground. Depending on how these treatments lay on the land, they could either help with soil stability and encourage revegetation, or they could diminish stability and increase erosion potential. Sierrita's plans and procedures, the

DEIS description of the proposed action, and the DEIS environmental analysis should be improved to provide an integrated and detailed description of the proposed action and its impacts.

4-17 / 4.2.1.5 Use of rock for access control

As noted above numerous times previously, plans for erosion control and access control need to be more specific and as FERC points out in this section, need to be agreed upon with landowners and reflected in specific goals, objectives and monitoring criteria.

4-17 / 4.2.1.5 Mulch

AVCA notes that mulch will be used. Provide specific about what type of mulch and details about how it would be applied. What measures would be taken to achieve some degree of permanence? Would the mulch be found locally? How would Sierrita insure that invasive seeds or roots would not be mixed into the mulch?

AVCA recommends that rock mulch in the form of properly designed erosion control structures within stream channels and in upland area be used. They are an effective tool whose success has been demonstrated in the Altar Valley.

4-18 and 4/19 / 4.2.2 Discussion of flash flooding and channel scouring many flaws

One of this DEIS's fundamental flaws is that the intended construction timetable that falls in the heart of the monsoon season. AVCA agrees with FERC's description of monsoon season rains tendency to "'[release] large amounts of water … during rain events in a short period of time". However, FERC's description fails to recognize that these storms can and do move very quickly and unpredictably. The DEIS and Sierrita's plans lack a realistic description of how project environmental and construction personnel will be able to react quickly and accurately. Given Sierrita's construction time frame, AVCA remain concerned that work will go on, regardless of weather, and that it will be difficult to assure that environmental personnel can stop construction during rain events -- or even be able to predict monsoon events.

AVCA share FERC and Sierrita's concerns about bank erosion and/or scour effects on the pipeline itself; but also assert that these impacts are likely to be permanent (as defined by FERC in this DEIS) watershed impacts both within and outside the right-of-way. While Sierrita has verbally expressed their intent to respond to previous comments AVCA have provided on these topics, and AVCA note that FERC has required improvements, these changes are not yet available and thus not available for public comment as part of this DEIS.

As FERC notes, and AVCA and others have commented, the temporary erosion control measures and tools proposed by Sierrita "cannot withstand the force of the water flow during flash flood events" nor does AVCA feel that they will stand up to the aridity and tough environment of the Altar Valley. The DEIS states that: "Sierrita had discussions with local ranchers and landowners actively working to control erosion in the Project area, and has provided copies of its Plan, Procedures, *Reclamation Plan*, and *Post-Construction Vegetation Monitoring Document* for comment (4-19)." AVCA in turn provided a detailed mark-up of these plans to all interested parties via the FERC public process, which were filed on September 17, 2013. The plans included as Appendices D, F, and G to this EIS are identical to those AVCA commented on months ago, and identical to those discussed at the June public discussion of restoration sponsored by FERC. It is distressing that the response to these concerns is not included in this DEIS. Sierrita has verbally informed us that they are working on responses, but thus far they are not available for public comment.

Furthermore, Sierrita has talked for months (since roughly spring 2013) about the "AMEC study" that will be a useful addition to this process, and perhaps our larger Altar Valley watershed planning. AVCA has not seen the AMEC study, nor any draft, nor has any AMEC employee contacted any Altar Valley Conservation Alliance staff person or partner to discuss our watershed projects. In short, Sierrita has talked about talking with us, but there has been very little substantive exchange of ideas. AVCA is very disappointed that they have not yet responded to the detailed mark-up of their plans that AVCA filed in the FERC record, and AVCA feels that FERC could have responded more fully to these comments in the DEIS. In short, discussion is progressing, but slowly, and this environmental review must be supplemented or, at the very least, extended to allow discussion to take its full course.

With all due respect, AVCA desires action and tangible ongoing response to our legitimate concerns. AVCA realizes that there are drainages that are not in ideal condition – that is why AVCA works so hard on watershed restoration, and that is why AVCA is concerned about this project making watershed stability worse than it already is now.

As further evidence of our intense frustration with reclamation / restoration planning for this project, AVCA would like to direct FERC's attention to Sierrita's intention to "armor the banks of dry wash crossings with riprap". While riprap may be appropriate in some settings where the focus is protection from floods, this tool is highly inappropriate in a setting where the aim is revegetation and watershed restoration. Revegetation of channel banks and restoration of flood plain features are the best way to encourage channel stability and watershed stability in open country. AVCA project that flood waters would rapidly eat around riprap, destroying the supposed erosion control treatment, and making the problems even worse. As evidence, there is a rip-rap structure downstream of Highway 286 that began to crumble almost immediately. Two AVCA gabion basket erosion control projects (on the BANWR and the King's Anvil Ranch) have failed in recent years, when water cut around them. These hard-scape type approaches do not integrate with natural drainage dynamics. This is why AVCA have advocated for the use of smaller rock structures for erosion control that *let the water do the work*, as described by watershed restoration and wildlife biologist Bill Zeedyk.

Use of water bars should be described much more specifically and in relation to other soil surface and contour treatments, as mentioned above several times.

4-19 / 4.2.3 Spill prevention compatibility with no vehicular access requirement

Throughout the process, Sierrita has expressed commitment to no vehicular access. Given this commitment, it is not clear how Sierrita would reconcile this stance with a spill or contamination situation that would require "[handling, transporting, and disposal]" of spill or contaminate materials. The EIS should clearly describe how Sierrita would handle, transport and dispose of materials without vehicular access.

4-21 / 4.2.4 Topsoil segregation and dry wash crossings

AVCA agrees with the FERC recommendation that Sierrita take extra precautions at dry washes. AVCA disagrees, however, with FERC's finding that soil impacts would be "temporary". AVCA remains concerned that restoration / reclamation actions will not be successful and that impacts could range from short-term to significant.

4-24 / 4.2.1.1 Discharge of hydrostatic test water

Where would hydrostatic test water be released, and would there be site specific strategies in place to reduce erosion and encourage revegetation at sites?

4-25 / 4.3.1.3 Las Delicias Well

The location of the pipeline ROW so close to the Santa Margarita wells is concerning, particularly since in that area it would not be difficult to route further away from the wells.

4-27 / 4.3.1.5 30 day repair window on waterlines

AVCA submits that a 30 day repair window on broken water lines, in this climate, is inappropriate and puts immense burden on the landowner or lessee. In the Sonoran desert, some water lines provide the only source of water in an area for people, livestock and wildlife. Without water, animals could become sick and die. Removing animals from a pasture due to a broken water line caused by pipeline operations would result in damage to carefully planned grazing rotations. It would result in unplanned and uncompensated labor for the ranching operator. Water is not a commodity that any of us living in the Altar Valley can afford to be cavalier about; it can be, quite literally, a life or death situation. Landowners should be alerted within the hour, and the waterline should be repaired within 24 hours. Similarly, the 10 day complaint window for evaluation is equally inappropriate.

4-29 / 4.3.2 Surface water resources and land use

The sole focus on historical cattle grazing as the source of surface water feature change is not accurate. AVCA does not dispute that historical (from the late 1800s and early 1900s) cattle grazing impacted the watershed, but the Commission is not well served if the discussion does not also include information describing how watershed conditions are significantly better now than they were decades ago. See, for example, the 2001 Altar Valley Conservation Alliance Watershed Resource Assessment - Watershed Action Plan and Final Report, attached as Appendix B.

Also, the effects of linear features like roads, trails and historical dikes have played a major role in causing erosion features and channelization. The severely incised Altar / Brawley Wash drainage that collects water from the over 600,000 acre Altar Valley watershed was originally a productive floodplain area capable of producing a hay crop. The drainage area was used as a wagon road, plus there were large flood events that caused erosion. As FERC correctly notes, currently vehicle and foot traffic from many sources contribute to keeping these watershed dynamics going in the Altar Valley.

This is precisely why AVCA is so concerned about the proposed Sierrita Pipeline, and particularly the western route that opens up previously undeveloped country, with relatively few access routes. There is currently no major north - south running access route except the Route 286 corridor, and wise and thoughtful land-use planning for the Altar Valley would maintain that status quo, and help to continue the current trend of bettering the Altar Valley landscape.

4-32 / 4.3.2.1 Discussion of waterbodies/washes/gully erosion

This discussion should include stock tanks. The discussion of the potential for gully erosion and washes should be more in depth.

4-33 / 4.3.2.2 Discussion of floodplain dynamics

The DEIS states that “sheet flooding is also an issue when flood water spreads out over the land surface rather than collecting in defined waterbody channels”. The characterization of “sheet flooding” as an issue raises concern, in that sheet flow of water across the soil surface is positive in that it provides moisture for vegetation growth. The objective of the restoration work done in the Altar Valley has been to encourage infiltration and vegetation growth. The DEIS discussion of floodplain dynamics appears to be biased toward channeling water as quickly as

possible and removing it. This is not a good plan. The main objective of any restoration work should be to keep water on the land, and to encourage infiltration to allow for vegetation growth.

When a linear feature, such as a road or pipeline right-of-way, crosses that sheet flow it can interrupt the water flow and redirect that water into the next channel. Sierrita's numerous soil surface and contour treatments could have significant negative or positive effects on sheet flow, hence the importance of thorough, integrated and site specific plans for these treatments.

4-37 / 4.3.2.5 Surface water construction impacts

FERC states that "Sierrita intends to install ephemeral waterbody crossings when they are dry and not flooding." This intention appears very unrealistic, given that construction is bounded by completion of the FERC process and an intended fall 2014 in-service deadline, which will place construction within southern Arizona's volatile and unpredictable monsoon season. Thus, surface water impacts are likely to be significant.

In general, AVCA agrees with FERC's description of likely surface water construction impacts; however AVCA notes that head-cutting is not emphasized. Head-cutting and associated channel incision can rapidly move upstream, quickly increasing the watershed area impacted by excessive erosion. Via the head-cutting process, erosion impacts could move rapidly out of the right-of-way upstream and downstream onto adjacent lands. It is thus very important that AVCA-planned, permanent erosion control treatments be applied, using materials that can withstand time and climate. AVCA recommends use of rock from the project site, supplemented by imported rock. AVCA has previously recommended the names of watershed restoration practitioners and methods that have experience in this area who can assist FERC with effective design. Thus far, watershed treatments are scattered between various sections of the DEIS and Sierrita's various plans, and it is impossible to know whether there is indeed an effective integrated and site-specific strategy in place.

AVCA also agrees with FERC's description of likely impacts associated with unauthorized vehicle and pedestrian access. AVCA is concerned that FERC does not appear to identify and analyze any proposals for mitigation for these problems. It would seem, by virtue of FERC's own commentary on this matter, that impacts to surface water should be considered significant and permanent.

4-38 - 4-44 / 4.3.2.6 Comments on Waterbody construction procedures and mitigation

As mentioned previously, the assumption that waterbodies will be dry seems unrealistic. While it appears that Sierrita has stated that it would stop work during rain events, AVCA is concerned that the project schedule may prevent this.

AVCA understands that temporary erosion control structures such as silt fencing, straw bales, etc are necessary during construction, but AVCA does not feel they will suffice for permanent erosion control. Sierrita's plans need to better differentiate between temporary and permanent solutions to erosion control both within and adjacent to drainage channels.

AVCA recommends use of permanent rock structures that are designed site specifically, to slow water down, encourage infiltration, and provide microclimate that encourages revegetation.

Plant types to be used for revegetation note a preference for woody species, which doesn't make sense given that grasses and forbs are better agents of soil stability than wood species.

While armoring washes may have value in some sites, it may well not be an appropriate technique for this project. Regardless, it should be described site specifically and in a manner that integrates with all other watershed stabilization and restoration practices.

The use of water bars to "divert water off the right-of-way into a vegetated area instead of directly into the ephemeral wash" is not entirely logical. While it is important to avoid "over loading" the wash, water is a critical resource for reestablishing vegetation -- and the vegetation will ultimately be the source of stability. Once again, site specific and integrated discussion of proposed treatments in necessary and thus far not available for review.

The DEIS states that post-construction vegetation management within the right-of way would be limited to a narrow strip. The DEIS should clearly state how Sierrita proposes to conduct that vegetation management in a manner consistent with their intent to not allow any vehicular access in the right-of-way.

AVCA notes that FERC does not support Sierrita's request for "proposed modifications to [FERC's] Plan and Procedures that would exclude the use of protective and restoration measures at ephemeral washes because these features are anticipated to be dry at the time of crossing" at locations where the wash is connected to and upstream of a stock tank, due to endangered species concerns. AVCA agrees with FERC's concern, but recommends that it be extended to all washes to provide for species protection and overall watershed health. FERC's EIS analysis should not limit this recommendation only to channels with associated stock tanks.

AVCA notes that FERC seeks to encourage better protection of the right-of-way area in the vicinity of Brown Wash, which AVCA agree is a sensitive and particularly valuable habitat area; but simply reducing the right-of way by 25 feet would not appear to offer any true mitigation of the severe impacts that will occur in this area. It should be noted that impacts to this important area could be completely removed by locating the pipeline in an area already encumbered by development.

AVCA supports FERC effort to urge Sierrita to utilize more the HDD method to cross more drainage channels. This is yet another area where FERC requests significant data and analysis from Sierrita, which should be available for thorough public review and comment.

Analysis of access road maintenance and restoration should include maintenance of existing road drainage structures and design and installation of new drainage structures, such that access roads are left in as good or better shape than prior to construction.

4-43 / 4.3.2.6 Importance of restoration criteria and team approach to evaluating monitoring success

The DEIS states that "if the FERC determines that bank erosion or stream scouring issues are not adequately addressed, Sierrita would be required to remediate the problem. The FERC would also monitor restoration and vegetation success, and FERC, along with the land-managing agency (e.g., ASLD), would ultimately determine if restoration is successful." There are a number of very important points that must be addressed with regard to this statement:

- The DEIS fails to include specific criteria by which the presence or absence of "erosion or stream scouring issues" may be evaluated. While there are basic criteria concerning vegetation, there are none for watershed stability.

- By delegating description of what success looks like to landowners, FERC essentially cannot know what the land will look like and thus cannot adequately describe impacts. If the landowner requires a low bar, impacts would be greater, or vice versa.

- Other landowners and key parties besides ASLD, including NRCS, Pima County, Arizona Game and Fish Department and BANWR, who have a stake in the matter should have a seat at the "evaluation table" along with Arizona State Land Department.

4-44 - 4-45 / 4.3.2.8 Hydrostatic water discharge

FERC should more fully describe and evaluate the site specific impacts of hydrostatic water discharge, and the measures necessary to prevent erosion problems and/or to use the water beneficially.

4-47 / 4.4.1 DEIS failure to rely on the best scientific and commercial data available concerning vegetation resources.

On page 4-47, the DEIS fails to rely on the best scientific and commercial data available. The paragraph quoted below is speculative, inaccurate and soundly refuted by the best available science.

> *"A study conducted by the Nature Conservancy (Gori and Enquist, 2003) mapped grassland types within the Project area (see figure 4.4-2). This study shows that the majority of the mixed grass-scrub community crossed by the Project (approximately 372 acres) is exotic-dominated grasslands, defined as grassland with 10 to 35 percent total shrub cover, in which mesquite cover is less than 15 percent and non-native perennial grasses are common or dominant. High-quality native grassland and historical grassland are also found within the Project area. The high-quality grassland found in the Project area (approximately 20 acres) is defined as grassland composed of native perennial grasses and herbs with 10 to 35 percent total shrub cover, in which mesquite cover is less than 15 percent, and that has restoration potential. Historical grassland (approximately 28 acres found in the Project area) is defined as former grasslands with greater than 15 percent canopy cover of mesquite combined and/or greater than 35 percent total shrub cover, along with perennial grass canopy cover that is usually less than 1 percent and always less than 3 percent, and type conversion to shrubland that is either permanent or would require 40 plus years of livestock exclusion for partial recovery of perennial grasses."*

The NRCS is the government agency with expertise in this subject area and in this geographic location, not The Nature Conservancy. NRCS has developed Ecological Site Guides, which are available on the Ecological Inventory System website, found at: https://esis.sc.egov.usda.gov/Welcome/pgReportLocation.aspx?type=ESD. These guides show what the historic percentages of species should be at a given site. They were developed by NRCS through years of field work and are recognized by most agencies as the guides to use in determining whether a site is close to desirable condition or not.

Instead of making sweeping generalization regarding the project area, the DEIS and the applicant's plans should be focused on assessing each Ecological Site. The term Ecological Site is a complex of soil, parent material, climate, slope and vegetation. (NRCS has a National Range and Pasture Handbook on their website that explains this further.) Actual inventory of what is on each Ecological Site should be done, and then assessed. Post-construction monitoring should be based on each Ecological Site as well. In general, this is one of the biggest shortcomings of this DEIS and the applicant's plans: sweeping generalization made about the project area, rather than individual Ecological Sites.

Furthermore, the claim that merely partial restoration of perennial grasses would require 40 plus years of livestock exclusion is founded on myth and speculation that does not rise to the level of the best available science. What the best available scientific information does say, in contrast, is that native perennial vegetation can and has been rapidly restored in the Altar Valley in the presence of controlled livestock grazing. A study done on the impacts of controlled grazing versus grazing exclusion (Holechek, J.L., Baker, T.T., and J.C. Boren, 2005. "Impacts of Controlled Grazing versus Grazing Exclusion on Rangeland Ecosystems: What We Have Learned" New Mexico State University Range Improvement Task Force Report No. 57, http://aces.nmsu.edu/pubs/_ritf/RITF57.pdf) demonstrated that:

> *"On the Montana Allotment on the Coronado National Forest in southeastern Arizona, a combination of rest rotation grazing and conservative stocking over a 10-year period resulted in rapid improvement of both riparian vegetation and bank characteristics (Fleming et al. 2001). Hundreds of riparian trees became established in riparian reaches where they had been absent 13 years ago. Based on a system using 10 indicators, riparian health on the Montana Allotment was judged to be excellent. This study shows that well planned grazing can result in rapid riparian habitat improvement under some conditions in the southwestern United States. "*

In general, FERC's representation of Altar Valley grassland communities is overly simplistic, unsophisticated, and often just plain wrong, as exemplified by the following statement: "However, intense cattle grazing and associated soil disturbance has favored the growth of annual, non-native grasses and shrubs over native bunch grasses in these communities. In addition, fire suppression has protected the growth of non-fire resistant scrub over fire tolerant grasses." The Altar Valley's current condition has evolved from extremely complex interactions related to human land-use, climate, drought, significant weather events, and constantly evolving improvements in range management and ranching "technology" and know-how. Furthermore, enhancing rangeland conditions of the Altar Valley as they pertain to the dynamics between shrubby vegetation and grassland is a complex problem with numerous different possible solutions that are certainly not "permanent" nor dependent on "40 plus years of livestock exclusion for partial recovery of perennial grasses." There are numerous examples of very successful improvement of grassland condition in the Altar Valley, which have been achieved in combination with well-managed grazing of livestock. And what is the point of the reference to mesquite stands near Portal, Paradise and Douglas Arizona? FERC's treatment of rangeland resources in this DEIS is extremely inadequate.

4-50 / 4.4.1 Figure 4.4-2 portraying grasslands crossed by the project should be removed from the DEIS.

Figure 4.4-2 maps "grasslands crossed by the project" and provides a very strong visual comparison of "exotic-dominated grassland" and "high-quality native grassland". The source of these classifications must be identified. It is not clear what purpose it serves. This graphic appears to serve primarily as a means of denigrating the environmental value of the Altar Valley. AVCA is in the processing of furnishing to FERC digital maps that accurately portray vegetation in the Altar Valley, as discussed at the FERC meetings on December 12, 2013 and December 14, 2013.

4.51 / 4.4.2 DEIS fails to adequately describe and analyze the regional importance of the Altar Valley watershed

While the DEIS mentions the existence of the Pima County Multi-Species Conservation Plan and the Maeveen Marie Behan Conservation Lands System, it fails to highlight Altar

Valley's significant conservation value within Pima County. Pima County's highly sophisticated analysis of wildlife habitat potential and establishment of biologically oriented management units that have been integrated into Pima County's planning and zoning regulations must be analyzed in the EIS and should be worthy of graphic representation in the DEIS. Substantive inclusion of this Pima County data would highlight the regional value of the Altar Valley and would paint a more complete picture than the one portrayed in Figure 4.4-2.

4.54 / 4.4.5 Complexity regarding Lehman's love grass

Lehman's lovegrass is correctly described as non-native species and it is indeed present in many areas of the Altar Valley. Decades ago, it was considered a useful tool for rangeland restoration that was recommended as a state-of-the-art solution at that time. The presence of Lehman's in the Altar Valley is and will continue to be a source of management concern for valley ranchers and other resource managers, but it is part of ecological reality in the Altar Valley, and does have a role to play in maintaining and/or enhancing watershed stability. It can have positive benefits in terms of its ability to provide vegetative cover in areas that were severely degraded. In the final draft of the Elkhorn Ranch Coordinated Resource Management Plan completed in fall 2013, the NRCS range conservationist notes that, "Lehmann lovegrass is increasing in some areas of the site, lowering the condition score because it is not native, but contributing to site stability, productivity and watershed function." So while Figure 4.4-2 illustrates the presence of Lehman's lovegrass, it fails to accurately tell the broader and complex story of vegetative change in the Altar Valley.

4-56 / 4.4.6 DEIS fails to use scientifically credible information concerning historical absence of fire.

The following statement is not correct: "Due to livestock grazing practices, fire has been historically suppressed in Scrub-Grasslands, contributing to the expansion and dominance of scrub species" (FWS 2003). This statement is not true. To the contrary, Altar Valley ranchers have been striving to return fire to the Altar Valley since the 1970s. Prescribed fire is a major programmatic emphasis for AVCA, and is currently supported by major grants from the Natural Fish and Wildlife Foundation for purposes of watershed and habitat restoration. Once again, this DEIS lacks a sophisticated and scientifically credible understanding of Altar Valley grassland ecology, its historical evolution, and past and current perspectives.

4-57 / 4.4.8 Possible off-site vegetation impacts

While the DEIS acknowledges direct impacts to vegetation, it fails to acknowledge that there could be impacts to vegetation resulting from the effects of erosion that could spread off site.

4-59 / 4.4.8 Inconsistencies regarding restoration success

The DEIS fails to provide realistic analysis of expected vegetation impacts. The executive summary suggests that "areas disturbed by pipeline construction would begin to resemble the surrounding area after at least 20 years" (p. ES-7); then the Abella (2010) citations speak to longer time frames of "76 years … [for] full establishment of perennial plant coverage and 215 years to recover species composition typical of undisturbed areas". Throughout section 4.4.8, the DEIS recognizes that climate and a myriad of other influences affect revegetation success.

AVCA agrees with FERC's finding that "continuous traffic along the right-of-way would result in reduced vegetation and restoration success, if not further deterioration of the disturbed area through road and/or trail formation … Furthermore, the area of impact could likely expand as unauthorized traffic from illegal activities ventures out from the right-of-way into adjacent

areas, creating a system of trails." The DEIS clearly acknowledges that while "Sierrita [is committed] to implementing mitigation measures during and following construction to deter unauthorized access to the right-of-way," these mitigation measures "may not completely deter off-road vehicle use of pedestrian traffic along the right-of-way." AVCA is very concerned that foot and vehicular access will severely undermine restoration success, and that the DEIS analysis of impacts is inherently flawed in that it assumes that Sierrita's restoration and access management plans will be effective.

While we have stated over and over that Sierrita's definition of long-term monitoring is not nearly long enough, we are forced to bring it up again here. As stated above, on page ES-7 the DEIS states, that "areas disturbed by pipeline construction would begin to resemble the surrounding area after at least 20 years" as well as citing Abella's statements of 76 and 215 years. These statements only serve to highlight, yet again, how inadequate Sierrita's claims of 3-5 year monitoring are. If complete restoration will not happen for twenty years (at the least), how is it acceptable for Sierrita to cease monitoring after 5 years?

4-62 / 4.4.8.1 Habitat fragmentation discussion exemplifies inherent DEIS flaws resulting from complete absence of alternatives analysis

AVCA finds the following statement to be significantly incorrect to the point of being ridiculous: "We [that is FERC] observed that the natural landscape crossed by the Project has already experienced fragmentation in the form of existing roads and trails from human and grazing activities, other rights-of-way (e.g. Highway 286, electric line), and clear cuts." (Also, it is not clear what is meant by "clear cuts" in this context, as a "clear cut" usually describes a forest environment where wood is 100% harvested. This term doesn't make sense in this context.) To the extent that the proposed pipeline route follows Highway 286 we agree; but at the point where the proposed pipeline leaves the highway proximate to the Elkhorn Ranch Road, AVCA submits that this description is not correct and that the proposed route should be described as greenfield. If this DEIS analyzed different alternatives, such as the eastern or highway route in comparison to the western route, this is a topic where there would be substantive differences in expected level of impact.

AVCA finds that FERC's determination of "[minimal] impacts of habitat fragmentation and edge effects" is flawed and pre-mature, due to numerous gaps and unknowns in the *Reclamation Plan* and *Post-Construction Vegetation Monitoring Document*. FERC itself has asked for substantive revisions to these plans, and many important concerns raised during the formal scoping period and the summer 2013 discussions concerning restoration have not been addressed by the DEIS nor Sierrita plans and documents.

AVCA acknowledges that further improvements may be to watershed and vegetation condition in the Altar Valley; but despite the work to be done, the Altar Valley offers an unfragmented landscape where that work is possible. A grassland area of this size, populated and managed by people committed to its health and positive future, is an extremely valuable resource. The DEIS completely lacks acknowledgement of the regional land and habitat protection context of Pima County and the border region, a topic that was definitely raised during scoping and throughout this process.

4-64 / 4.4.8.2. Comments on seeding

AVCA is concerned that seeding plans be designed to reflect different ecological sites, as well as planting season. Consider use of the following species that may or may not be included in Sierrita's plans at this time: Red Threeawn (Aristida pupurea var longiseta), Pima pappusgrass (Pappophorum vaginatum), Cane Beardgrass (Bothriochloa bardinodis), and Blanket flower (Gaillardia pulchella). AVCA is concerned that the seed mixes are primarily

composed of warm season plants and that the plan to seed in the winter will probably not have any germination unless the mix is changed.

4-64 - 4.65 / 4.4.8.2 Monitoring and mitigation recommendations

AVCA remains concerned that the monitoring program identified thus far does not include robust criteria concerning watershed health. It also contains flaws in the design of the study and data interpretation. We have repeatedly stated that our experience on the landscape indicates that restoration will be an immense task under the best circumstances, and the monitoring proposed thus far only serves to make us more leery of the DEIS's general assumption that restoration will be a complete success.

Regarding the institution of a monitoring program, AVCA recommends that:

- The monitoring and adaptive management program be expanded to include specific criteria for success and measurement techniques related to surface water and erosion and access management, in addition to vegetation.
- The monitoring and adaptive management personnel be composed of a stakeholder team representing at minimum Kinder Morgan, FERC, ASLD, NRCS, AVCA, Pima County, and BANWR. These entities should have a seat at the "adaptive management" table, and Sierrita should provide adequate financial support for facilitation and administration of this stakeholder group.
- Monitoring and adaptive management activities, administrative and facilitation support for the above-mentioned team, and necessary on-the-ground mitigation treatments should be fully funded by Kinder Morgan, with financial support guaranteed by a bond or other legal and financial mechanism to guarantee Kinder Morgan's financial backing for the life of the project.

AVCA is concerned about the monitoring method proposed by the applicant. In Arizona, the NRCS uses the standard Pace Frequency method to monitor Arizona Rangelands. In the Guide to Rangeland Monitoring and Assessment (published by: Arizona Grazing Lands Conservation Association and written by Lamar Smith, George Ruyle, Judith Dyess, Walter Meyer, Steve Barker, C.B. "Doc" Lane, Stephen M. Williams, James L. Maynard, Dan Bell, Dave Stewart, Alfred "Bill" Coulloudon), the summary recommendation for monitoring ground cover can be found on page 5, in the first paragraph. The summary recommendation for monitoring grassland vegetation also can be found on page 5, in the third paragraph. The point data for bare ground and cover (including foliar cover) and meter square quadrats for density are standard methods.

The problems with the proposed monitoring program are in the design of the study and data interpretation:

- **Design**:

  In Sierrita's Post-Construction Vegetation Monitoring Document, Appendix G, on page G-8, in paragraph 3, the author states that 20 randomly selected monitoring sites based on ecological parameters will be selected. On page G-10, paragraph 5, the author states: "Sierrita will follow the guidelines of Herrick et al. (2005b) for determining the appropriate number of plots and transects per plot that are necessary to adequately monitor a seeding area." The implication is that the 20 monitoring sites are to be replicates in a statistical analysis across the pipeline right-of-way. The pipeline area extends from Three Points with about 12 inches of annual precipitation to Sasabe with annual precipitation over I6 inches. The apparent design

may be appropriate for ***a single ecological site, but is not appropriate to sample across the multiple ecological sites between Three Points and Sasabe***.

At each monitoring site there is to be three randomly selected 100-ft transects within the construction ROW and three randomly selected 100-ft transects in the control non-construction ROW. On each transect, plant basal and foliar canopy cover, litter, and bare ground will be recorded for 60 points, 180 points for the three transects. There is no indication that rock or gravel will be recorded. Three meter square quadrats will be randomly selected along each transect. "The $1m^2$ quadrat will be used to measure plant species density, and species richness (Herrick e al. 2005b)." This is a total of nine quadrats for the construction ROW and nine for the control ROW. The 180 points for soil cover attributes is probably adequate, ***but nine quadrats per construction ROW and control ROW are not an adequate sample for individual plant species density estimates***.

- **Interpretation**:

In Sierrita's "definitions of proposed metrics" on page G-9, they state: "Species composition will be determined by listing the total number of desirable species that occur within the 1 x 1-meter quadrants or along the line-point intercept transects within the ROW and off-ROW control plots." We are unsure of what is meant by "listing" here; this is not a definition of plant composition that is used by the Arizona NRCS.

Also listed under the definitions section on page G-10 is "Frequency is a measure of how many times a species is recorded at a monitoring site….For example, if a plot contains 100 plants and 35 are species A, then the frequency of species A would be 35%." Where did the author find this definition? Again, this is not the accepted standard of range monitoring by NRCS.

Page G-10: "Dominance will be determined based on aerial foliar cover data from the 180 point transects." This is an inadequate point sample to provide any reliable estimate of individual species dominance status.

In short, neither the design nor the proposed interpretations are appropriate to monitor vegetative effects of the proposed pipeline through the Altar Valley.

An alternative monitoring plan might be:

The Sierrita plan proposes a plot size of 328 feet x 100 feet or 328 feet x 150 feet for the ROW and off-ROW control plots. A 200-quadrat Pace Frequency sample could be designed to fit within these proposed plots. Four 50-quadrat transects oriented parallel to the ROW could be an option, but specific design at each monitoring location may need to be adjusted to ensure that the ROW and off-ROW control plot are comparable sample on the ecological site. An initial location for each of the monitoring plot locations along the pipeline ROW could be selected on aerial photos with the objective of having at least one plot in each major ecological site along the pipeline. Variability in the ecological condition and other factors may warrant more than one plot per ecological site. Again, we cannot emphasize enough that the broad, sweeping terms that both Sierrita and the DIES have used to characterize the landscape along the pipeline ROW are inappropriate; location specific ecological sites must be used.

Plant species frequency is defined as the number of quadrats in which a species occurs divided by the number of total quadrats in the sample. Plant species density and/or distribution are two characteristics associated with changes in plant communities. Species frequency measures the combination of these attributes in a single measurement. Calculation of plant composition using frequency data is not appropriate.

Bare soil and cover attributes from the point data and the quadrat plant frequency data between the ROW and off-ROW control plots at each monitoring plot location may be compared statistically using binomial confidence interval tables using either the 95% or 80% confidence intervals.

4-65 - 4-72 / 4.4.8.2 Construction and Restoration Procedures: DEIS organization becomes very confusing in this stretch.

DEIS impact analysis and description becomes very confusing in this section, whereby numerous vegetation categories such as "vegetation communities of special concern" and riparian habitat" are under heading 4.4.8.2 Construction and Restoration Procedures. There is significant repetition of previously described operational plans, with many previously mentioned flaws.

4.65 / 4.4.8.2 Construction and Restoration Procedures: Avoidance of vegetation monitoring transects is essential

The DEIS states that Sierrita would avoid impacts on vegetation monitoring transects "if possible." There is absolutely no reason for Sierrita to impact ANY of the long-standing vegetation monitoring transects in the Altar Valley. The analysis must explain why, how and whether there is any anticipation that this will occur.

4.66 / 4.4.8.2 Construction and Restoration Procedures: Brown Canyon impacts

Impact analysis of the valuable riparian habitat in the mouth of Brown Canyon lacks sufficient detail. What does "drag section" mean, and how would it decrease impacts? It appears that the right-of-way corridor width would be reduced by 25%. A true impact analysis of multiple alternatives, including both the eastern and western route, would reveal that there are methods of removing impacts to this sensitive area completely.

4-66 - 4-67 / 4.4.8.2 Construction and Restoration Procedures: Ranching concerns

The DEIS and various Sierrita plans frequently speak of Sierrita's commitments, but lack sufficient detail for the public to be able fully understand and/or evaluate impacts. For example, within the p 4-66 riparian habitat discussion there are comments about Sierrita's commitment to "fencing the right-of-way … to control vehicular access and/or livestock grazing". The proposed right-of-way is located on both private lands and ASLD land that is part of grazing leases, so fencing to control livestock grazing raises big issues. Furthermore, the DEIS states that "livestock management options (e.g., grazing rotation, herd management)" would be evaluated as part of FERC's adaptive management strategy. The analysis must explain how FERC or Sierrita intend to implement changes in grazing practices when neither entity has authority over grazing management. Obviously, this issue is critical to ranchers in the Altar Valley and yet another reason why a supplemental EIS must be prepared for public review and comment.

4-71 / 4.4.8.2 Construction and Restoration Procedures: Continued concern about access

It is interesting to note that FERC acknowledges that "creation of a new pipeline right-of-way and improvement of access roads would create new access into areas," in this case with a

possible increase in illegal wild harvesting. Once again, there do not appear to be any proposed mitigation measures described or available. Again, a rigorous set of alternatives and related analysis would likely show there to be significant difference between different routes, such as the eastern or highway route and western route.

4-72 / 4.4.8.2 Construction and Restoration Procedures: Need for additional information concerning access

AVCA shares FERC's curiosity and concern regarding how Sierrita would access the proposed right-of-way, and supports FERC's request for further information. Given the importance of this topic, AVCA asks that a supplemental EIS be prepared such that the public may understand and comment upon this important topic.

4-73 / 4.5 Wildlife Impacts Generally

The conclusion of the DEIS in regards to effects on wildlife is based on an impossible premise: that populations will be "affected but not adversely affected" by the project. While we recognize that this phrase is a regulatory term under the Endangered Species Act (ESA), the truth is that on the ground, there will be consequences of a project of this size and scope on the species that inhabit the area that will be impacted and with a very few exceptions (i.e. deer species "may" profit from a change in forage after reseeding of the road way) all these consequences will be detrimental to wildlife. This is true not only of species that are listed under ESA, but other wildlife as well.

Effects of the pipeline are skewed as, "Mule and Coue's white-tailed deer would likely decrease their use of an area within at least 200 yards of surface disturbance". The route of the pipeline is approximately 60 miles long; if the width of the ROW averages 150 and the deer avoid a section 200 yards wide on either side of the ROW, an enormous area of deer habitat will be destroyed.

Insufficient data is presented. No thorough EIS should contain the phrases. "no species specific surveys have been conducted [for lesser long-nosed bats or Chiricahua leopard frogs, for example]" (4-112) or "research is lacking on many [bat] species" This research should either be done and FERC should go through the steps outlined in 40 C.F.R. § 15022.22 for incomplete and unavailable information.

The DEIS concludes that all of the detrimental effects of the project will be mitigated by Kinder Morgan in its restoration program. Substantial proof shows however, that there will be little or no restoration undertaken. Pima County states there have been no successfully restored pipeline projects in Southern Arizona. The manager of Sheldon NWR in Nevada says that there has been no invasive weed control monitoring on roads associated with the Ruby Pipeline project (phone interview 24 June 2013).

Throughout the DEIS, there are inconsistencies and misleading statements. For example, on p. 4-91, we read that "A pipeline right-of-way provide an opportunity for developing high-quality feeding areas for deer". Yet, later we read that, construction impacts would include "loss of potential forage within the area of disturbance." And, "the Project would also reduce habitat used by prey species, thereby reducing prey availability..." (4-110)

While "Right of Way" is the term used throughout the study for the 150 - 300 foot wide clearing that will be created, the only realistic term is "road" since Kinder Morgan has presented no feasible plan to stop or prevent foot and vehicular traffic on the pipeline route. A road through the remote areas traversed by the pipeline will open up vast areas of habitat that were

previously accessible only by foot, ATV or horseback. Poaching of game, hunting out of season and shooting of non-game animals is already a problem in the Valley and creating access to remote terrain will increase the pressure on all wildlife populations, not just big game animals. The fact that private landowners will not have legal control over the ROW will increase this pressure. "Increased public access as a result of the newly cleared pipeline right of way could increase poaching of game animals and non-game wildlife." (4.93)

In 2001, Buenos Aires NWR used color infrared aerial photography to map new trails and roads created on the refuge by illegal foot traffic and Border Patrol activity. At this time, there were 1315 linear miles of foot trails (which is 7.2 miles of trails per square mile) and 279 acres totally denuded of vegetation on and along the trails. There were 117 illegal crossing points on the 4.5-mile border with Mexico. Smugglers and drug mules, Border Patrol vehicles and hunters' vehicles will create paths adjacent to the pipeline road which will result in similar devastation.

When asked directly about what plans have been formulated to impede this traffic on the pipeline ROW, Kinder Morgan officials have responded. "All bets are off" [to keep vehicular traffic off ROW], "Nothing can prevent foot traffic" and "We can't keep everybody from cutting fences." (public meeting 18 June 2013)

FERC should identify or commission studies on the effects of foot and/or vehicle traffic on wildlife in the desert grassland. Many species in this habitat hunt and forage at night and given the acres totally denuded of vegetation adjacent to trails as documented above, the effect on wildlife is likely to be adverse. Until studies have been presented on this pressure, it is impossible to make any definitive statement about how or to what extent species are affected.

4-76 / 4.5.1 Lack of detailed and site specific analysis in this DEIS

The DEIS fails to distinguish between different portions of the project area relative to human land use and development. The first paragraph on page 4-76 makes numerous general statements and does not "locate" these comments correctly within the overall right-of-way project area. For example, the sentence "as the human population expands, groundwater depletion and springhead use also increases creating subsidence and soil erosion issues and reducing water availability for wildlife use." The DEIS should provide specific locations for issues such as subsidence, rather than attributing this problem to the entire project area.

Another sentence states that "habitat conversion to livestock management can negatively affect habitat of some wildlife species" and finally at the end says that a positive feature of ranching is use of livestock waters for wildlife. AVCA fails to see what these kind of negative statements about ranching and livestock grazing contribute to this analysis of a proposed natural gas pipeline right-of-way and construction project. AVCA theorizes that FERC is attempting to paint a negative picture of the Altar Valley as an area that is already excessively disturbed, such that the addition of a gas line would in theory not be a big deal.

AVCA finds this apparent bias to be unacceptable, and the facts do not support FERC's bias. There are many ways to accurately portray the environmental status of the Altar Valley, such as the myriad of studies conducted as part of the Sonoran Desert Conservation Plan as well as the AVCA resource condition and vegetation maps submitted during scoping.

4-80 / 4.5.2 Lack of logic concerning habitat impacts and wildlife, which are not substantiated by analysis nor data.

AVCA draws attention to the following statement at the top of page 4-80: "We believe that after construction of the Project, the right-of-way would eventually be restored and wildlife

habitat would return to its original condition; however, this would be a long-term to permanent impact in riparian areas and in vegetation communities dominated by desert scrub, ***as these areas may not return to their original character and function for several decades or longer*** [emphasis added]. This sentence contradicts itself, and exemplifies the flaw of this DEIS and project as a whole.

4-81 / 4.5.2.1 AVCA disagrees with FERC's finding that "the Project would minimize the impacts of habitat fragmentation and edge effects".

Moreover, on page 4-84, FERC acknowledges that "the Project would contribute to fragmentation of these and other unidentified wildlife movement corridors." FERC's projection of minimal impacts is flawed, in that it assumes that Sierrita's restoration program will be effective. A more realistic analysis would involve displaying alternative futures, whereby restoration was successful and where restoration is not successful. In addition, a robust analysis of alternative routes would likely show major differences between the eastern highway route and the western route.

4-88 / 4.5.3 Riparian habitat mitigation clarity lacking

The DEIS describes a method in which "to reduce the overall impacts on riparian areas, Sierrita would set cut woody vegetation along the top of the ephemeral wash banks above the normal high water line to provide stabilization, obstruct vehicular traffic, provide cover, and increase wildlife habitat value." AVCA would like to see designs specifications for this treatment that are supported by the best available science concerning habitat and watershed restoration and reclamation. The applicant's methods are not integrated in a way that results in a comprehensive plan, as mentioned numerous times within these comments.

4-90 / 4.5.3 Indirect impacts to wildlife

FERC correctly notes that "indirect impacts to big game species could include those caused by human activity." AVCA disagrees, however, with FERC's assessment that "displacement would be short-term and animals would likely return to the undisturbed area after construction and restoration efforts are complete". First, as FERC state numerous times, there is likely to be ongoing human use of the right-of-way corridor, particularly given the absence of clear plans about how to prohibit access; and second, according to FERC's own statements, restoration may take many, many years.

4-92 / 4.5.5 Predators, Furbearers, Game Birds and Small Game Species

"Because no perennial or intermittent waterbodies are found within the Project area that would support waterfowl, hunting of waterfowl is not addressed; however, it is possible that waterfowl species identified...pass through the Project area in route to foraging or nesting sites."

In fact, the BANWR has identified 27 species of ducks and geese on the refuge, three of which (mallards, cinnamon teal and black-bellied whistling ducks) have breeding records in the area. 46 species of shorebirds have been identified, 7 of which have breeding records.

Flocks of waterfowl use in-ground tanks within the project area for feeding and they are essential as a stopping point for migratory ducks and other waterfowl to rest during migration. Increased access to these remote tanks and ephemeral waterholes will flush these birds and deny them the respite they need to fortify themselves during the stressful period of migration. See Figure 1 on page 35.

Insufficient data is presented on the effects of migrating waterfowl and other species in this report.

Figure 1: Photograph taken with game camera on 21 Nov 2013 at an in-ground stock tank within the path of the western route showing a flock of ducks resting and feeding.

4-93 / 4.5.6 More contradictions related to access management

After citing numerous ways in which big-game wildlife species could be impacted (increased harvesting levels, increased recreation, poaching, etc.), mostly due to increased human use of the proposed right-of-way and the improved access roads, FERC claims that "Sierrita would adopt right-of-way restoration methods that are anticipated to deter post-construction use of the right-of-way by authorized and unauthorized users." Yet previously, FERC has made numerous comments about the likelihood of access control not working. The EIS also needs to explain who "authorized users" would be and how access would be achieved for these users given statements about blocking access.

4-93 / 4.5.7 Golden Eagles and Caracara

The DEIS states that "breeding habitat for the golden eagle is within 10 miles of the Project area..." Again, increased access to remote nesting sites will have a detrimental effect on eagle populations.

Crested Caracara**,** a large raptor related to falcons, is also identified within the project area and has breeding records (U.S. Fish and Wildlife Service publication "Birds of Buenos Aires National Wildlife Refuge"). Caracaras are "rare" in Arizona and uncommon in all of the US with the exception of Texas (National Geographic Field Guide to Birds of North America).

"Sierrita's construction schedule would overlap with the nesting season for many migratory bird species in the Project area..." "...construction activity could result in nest abandonment, overheating, chilling or desiccation of unattended eggs or young causing nestling

mortality; premature fledging and[or ejection of eggs or young from the nest." Of particular interest here is the item 19 "unidentified raptor nests" listed in Table 4.5.7-2.

The DEIS does not demonstrate that the mitigation measures offered by Kinder Morgan are sufficient to counter the adverse effects to breeding species, especially those of particular concern as listed above.

4-106 – 4-111 / 4.7.1.1 Jaguar – Species and Proposed Critical Habitat

While jaguars are extremely uncommon in the US, jaguar Macho B did travel up and down the Baboquivari Range and across to the east, as documented by various photos as well as his eventual capture. This individual's long life in the valley (beginning in 1996 up to 2009) speaks to the value of the area for large wildlife.

"Sierrita would impact approximately 75 acres of proposed jaguar critical habitat..." Jaguars are top predators with a range that covers hundreds of square miles. The individuals that have been sighted in Arizona are almost certainly males wandering into the mountainous areas of the Altar Valley utilizing wildlife corridors to move north from Mexico. The individual animals which have been identified in the area have been photographed and tracked but there is insufficient data to fully document their movements, behavior or even numbers. An attempt to collar a jaguar for this purpose was spectacularly unsuccessful.

Figure 4.7.1-1 clearly shows the proposed pipeline route running parallel to "jaguar suitable habitat" and, in the southern section, directly through this habitat. The pipeline will also run through the proposed critical habitat for this species (Figure 4.7.1-2)
The DEIS lists, "ongoing illegal immigration, drug and human trafficking, and U.S. Border Patrol activities" (all of which would be effects of the project) as contributing factors in habitat fragmentation which would limit the movement of these animals. "...the Project would result in the removal of vegetation...which would reduce canopy cover required by jaguars to move between habitats and to hunt. The Project would also reduce habitat used by prey species, thereby reducing prey availability and hunting success."

Ocelots are glossed over in the report because the species is "at the northern extent of its range in the Project area". This is incorrect. A dead ocelot, confirmed by Arizona Game and Fish Department to be a wild ocelot, was found near Globe, Arizona in 2010 (http://azgfd.net/artman/publish/NewsMedia/Arizona-Game-and-Fish-collects-ocelot-found-dead-near-Globe.shtml). Ocelots have been sighted in nearby areas, (see among others: "In Southern Arizona, Rare Sighting of Ocelots and Jaguars Send Shivers"; New York Times; 4 Dec. 2011) but again, no animals have been collared or studied in depth. FERC should obtain sufficient data to make scientifically credible statements about their range, movements or numbers in this project area. .

4-112 – 4-114 / 4.7.1.2 Lesser Long-nosed Bat

"The degradation of foraging habitat and removal of key nectar providing species" are some of the impacts of the project. FERC states that "no species specific surveys have been conducted". The comments on bats in general are equally unsubstantiated. No mention is made, for example, of white nose syndrome in bats.

White-nose syndrome (WNS) is an emergent disease of hibernating bats that has spread from the northeastern to the central United States at an alarming rate. Since the winter of 2007-2008, millions of insect-eating bats in 22 states and five Canadian provinces have died from this devastating disease. The disease is named for the white fungus, *Geomyces destructans*, that infects skin of the muzzle, ears, and wings of hibernating bats.

The USGS National Wildlife Health Center (NWHC), along with the U.S. Fish and Wildlife Service and other partners continue to play a primary role in WNS research. Studies conducted at NWHC led to the discovery, characterization, and naming of the causative agent (the cold-loving fungus *G. destructans*), and to the development of standardized criteria for diagnosing the disease. Additionally, scientists at the NWHC have pioneered laboratory techniques for studying impacts of the fungus on hibernating bats.

Despite efforts to contain it, WNS continues to spread. Within the last two years, the disease has been confirmed in several central states, including Alabama, Indiana, Kentucky, Tennessee, and Missouri. High mortality of bats has not yet been reported at these locations, and it remains to be seen if WNS will develop and manifest in warmer parts of the US or other temperate regions of the world with severity similar to that in the northeastern US.

The DEIS states "Research is lacking on many bat species." There is a very real threat that workers and vehicles will bring this fungal disease into the area. FERC should ensure that the EIS reflects what is known about the possible spread of the syndrome into the desert grassland habitat and assume that it might spread into this area if there is credible evidence to that effect.

4-120 – 4.122 / 4.7.1.5 Pima Pineapple Cactus

The DEIS should address what measures Sierrita proposes to use to mitigate impacts to Pima pineapple cactus. Which cactus bank would be utilized? How would Sierrita's purchase indirectly impact availability of mitigation bank impacts for other parties?

4-127 – 4-129 / 4.7.1.7 Sonoran Desert Tortoise

The project "may impact individuals" but we don't know how many there are in the area because "no species-specific surveys have been conducted by Sierrita for this species . . . ". These surveys should be done and analyzed prior to determining potential mitigation measures. Table 4.7.1 states that suitable habitat is present in the Project area. "Project impacts may include reduction of foraging habitat, destruction of burrows, and modifications to the species behavior and movement." Mortality of individuals is already present on Highway 286 and unpaved ranch roads. Dumping of hydrostatic water into existing stock tanks, as proposed by Kinder Morgan is a very concerning prospect given the tortoise's well-recognized susceptibility to contamination as are "Unauthorized use of roads and trails, dispersed camping sites, illegal dumping and littering and U.S. Border Patrol enforcement activities [which would] also contribute to habitat degradation and introduce contamination." (4-76) The DEIS does not adequately document the possible threats and in the absence of a species survey

4-148 / 4.8.1.1 Pipeline Facilities – Open land definition

The definition of "open land" includes pasture/hay. To our knowledge, there is no land within the project area that is used for haying. Also we recommend deleting the phrase "trees stunted due to environmental conditions". What does this phrase mean?

4 – 149 / 4.8.1.1 Additional Space Required for Brush Clearing

We support FERC's request for additional information concerning additional space required for brush piling, and point out that the use of heavy machinery to place and move brush will have impacts similar to machinery used within the project right-of-way. As little as one set of vehicle tracks can create an area of soil compaction, plus create tracks that other vehicles or people on foot will follow.

4 – 149 / 4.8.1.1 Vegetation Clearing

Sierrita's plans regarding vegetation clearing and how it will be conducted, particularly relative to use of vehicles, need to be clarified. The DEIS contains unclear phrases such as, "Sierrita indicated, however, that it would not need to maintain vegetation (i.e., mow) within the permanent right-of-way in ***most*** [emphasis added] land uses types". AVCA is concerned that the DEIS does not refer to ***all*** land use types. AVCA suggests that the use of any type of vehicle to clear or mow vegetation will leave tracks that will encourage other vehicles to follow. Analysis of these unintended but inevitable vehicle uses should be addressed in analysis of indirect and cumulative impacts.

4 – 150 / 4.8.1.1 Open land

In the description of open land, the phrase "prior to overgrazing and the introduction of invasive plant species" and the comparison of grass species to the "plains of Sonora" are not supported by the best available science nor understanding Altar Valley land use and environmental history.

4 – 153 / 4.8.1.1 Effects on wildlife/livestock tanks

AVCA disagrees with FERC's contention that the two wildlife/livestock tanks would not be directly affected and this finding contradicts earlier FERC recommendations recognizing that channels connected to livestock tanks may indeed require additional careful treatment.

4 – 153 / 4.8.1.1 Repair of damaged water lines

The 30 day window for repair of damaged water lines is laughable, and yet another example of FERC's apparent lack of knowledge concerning local circumstances and drought conditions. In the event of a water line break, AVCA recommends that the landowner be notified within 1 hour and that the waterline be fully repaired within 24 hours.

4 – 153 / 4.8.1.1 Project impacts on livestock management

FERC's analysis of project impacts on livestock management is woefully inadequate, and appears to be biased towards concern about grazing impacts on restoration rather than the project's impacts on livestock operators. The DEIS takes another biased stab at livestock operators with the statement that "grazing can contribute to the rapid spread of weeds, which can reduce habitat quality and accelerate natural fire cycles." The fire cycle statement does not make any sense. Weeds can be spread by many forms of land use, especially vehicles.

Furthermore, while Sierrita may have "committed to working with local landowners and land managers to design site-specific measures intended to limit the cattle movement to the right-of-way," they have yet to do <u>any</u> work on that as <u>no</u> conversations regarding the limiting of livestock movement have occurred with Altar Valley livestock managers. Furthermore, the effect of limiting livestock movement on grazing rotations and ranch profits must be analyzed. As there are no site-specific measures designed nor agreed upon at this time, any analysis based on assumptions about this topic are premature.

4 – 154 / 4.8.1.1 Prescribed fire

Note that DEIS states that prescribed burns would be allowed.

4 – 155 / 4.8.1.1 Detours

The DEIS notes that detours may be required during open-cut road crossings on access roads. AVCA recommends that any detours be subject to the same biological and cultural reviews and mitigation requirements as access roads themselves, since they will be creating new roads.

4 – 156 / 4.8.1.4 Access Roads

AVCA recommends that access road restoration be subject to the same level of effort and monitoring as the right-of-way itself. Additionally, Kinder Morgan should be required to leave these access roads in better shape than it found them, which would involve deliberate and site-specific decisions about desired road width and installation of carefully designed drainage structures to ensure that the roads do not contribute to local erosion problems.

4 – 158 / 4.8.2.1 Road grading and Land Disturbance

4-158 AVCA disagrees with the statement that grading of BANWR roads (and any other access road outside of BANWR) "would not result in the use or disturbance of … land beyond that already dedicated to the existing road." AVCA's work on watershed restoration has shown that roads are one of the chief causes of excessive erosion and channel down cutting, usually due to road grading that turns the road itself into a drainage channel. Road grading that is done without regard for the way the road lies on the land is a major cause of Altar Valley erosion problems, and it is likely that Kinder Morgan's road grading efforts will cause numerous direct, indirect and cumulative impacts to the watershed both with BANWR and outside BANWR.

4 – 168 / 4.8.5.1 Project Impacts – Visual Analysis

The DEIS visual analysis contradicts itself on page 4-168 where one sentence says that "successful reclamation … is expected to make it virtually undetectable"; and the next sentence states that "some vegetation types would not be fully reestablished … for at least 20 years and may take several decades", resulting in long term impacts to Brown Canyon and Baboquivari Peak visitors.

4 – 172 - 174 / 4.9.1 Illegal Immigration impacts

The DEIS concedes that impacts from illegal immigration and human and drug trafficking could "exist for the life of the pipeline" and that "the Project could provide a new pathway for existing illegal activity in the Altar Valley". In this regard, the DEIS does reveal expected impacts. Unfortunately, it completely fails to suggest any mitigation of these impacts; and delegates that responsibility to Border Patrol. The fact that the public cannot view the supposed security plan is of grave concern to those of us who live and work in the Altar Valley. The rumor mill indicates that while there is a security plan for the construction phase, there is no plan for the time following construction. Early in the process, Border Patrol officials with local knowledge voiced concerns; and these same local officials appear to have been effectively removed from the discussion by officials higher up the Border Patrol bureaucracy. It appears that since there is federal will for this project to occur, regardless of impacts and logic, that very real issues related to security are being intentionally watered down. Furthermore, these same security issues will "likely deter vegetation from becoming re-established along the pipeline right-of-way."

4-175 / 4.9.2 Restoration Measures Data Request

We agree with FERC's call for additional information regarding restoration measures, and as with previous FERC information requests, recommend that public review of this new information is critical.

4-177 / 4.10 Socioeconomics

It is hard to comment in any meaningful way on the social and economic section of the DEIS. While there are several tables and columns of figures, there is nothing even remotely resembling a real fact-based study. Further, neither the temporal nor spatial boundaries of the analysis is set forth clearly. The DEIS states that the majority of the workforce would be housed in Tucson, logically enough, but does not focus adequately on the actual and uniformly adverse effects within the project area. Instead, it appears to be more an apologia for Kinder Morgan based on the sweet notion of the promise of jobs; never mind that the majority of jobs (80%) will be non-local and that the rest will be of extremely short duration.

4-180 / 4.10.3 Socioeconomics: Public Services

There is a glaring inconsistency here: "It is reasonable to assume that, with an increase in illegal immigration and human and drug trafficking in the Project area, there would be an increase in costs to public services. . . . the sheriff's department also believes that illegal immigration activities would likely increase in the Altar Valley as a result of the Project." Yet on the same page we read that, "However....while pipeline right -of-way may be used by undocumented immigrants or other unauthorized uses, it would not necessarily cause an increase in illegal immigration." Perhaps it wouldn't cause an increase nationally, but the evidence reported on this very page states that it would increase in the project area!

4-181-4-183 / 4.10.4 Socioeconomics: Transportation

"Construction activities could result in short-term impacts on transportation infrastructure. These could include disruption to traffic flow...construction of pipeline facilities across existing roads; and damage to local roads from the movement of heavy construction equipment and materials, followed two paragraphs later by, "There would be little or no disruption of traffic at road crossings..."

While there is some mathematics to supposedly demonstrate the number of vehicles using State Highway 286, no mention is made of the many ranch roads that provide the only access for residents to the highway.

Also, why would there be a different standard for road improvement on private versus public roads. The DEIS states that public roads would "repaired as close as practicable to their original condition; whereas private roads would be returned to their original condition or better".

4-183 / 4.10.4 Socioeconomics: Transportation

"Following construction, Sierrita would remove access road improvements and restore improved roads to their preconstruction condition..." (4-183) is another intriguing concept, given the size and weight of the equipment described for the project. The EIS should explain whether Sierrita will replant trees and grass along these roadways and narrow them to their original width?

4-183-4-184 / 4.10.5 Socioeconomics: Property Values

Regarding the effect on property values, we find "...Sierrita would compensate the landowner or agency for the use of the land." But, "This is not to say that the pipeline would not affect resale values...each potential purchaser has different criteria and differing capabilities to purchase land." The EIS needs to address the criteria and capabilities of purchasing land

crossed by a utility corridor which will cause “Unauthorized roads and trails, dispersed camping sites, illegal dumping and littering, U.S, Border Patrol enforcement activities...” and “contribute to habitat degradation and contamination.” (4-76)

4-185 / 4.10.6 Socioeconomics: Economy and Tax Revenues

AVCA certainly hopes that FERC’s finding that the “Project would not have an adverse, significant impact on ranching and grazing practices” remains true; however given previous FERC statements about the interactions between grazing and restoration, this finding appears to be premature. The anti-grazing bias of this document raises grave concerns for Altar Valley livestock operators. This concerns us, as there are many reasons why we believe that the project will, in fact, have a serious impact on ranching and grazing practices, including problems with fencing, erosion, increased illegal traffic and other problems detailed herein. We do not believe that the information in this DEIS, coupled with what we know from living on the land, sustains FERC’s finding. Furthermore, the DEIS makes statements regarding both FERC and Sierrita’s plans to restrict grazing in the project area. In some areas of the project, the ROW passes through pastures, and restricting use of the pastures will change the management of a herd, potentially limiting the number of animals the ranch is able to sustain. This will certainly have a significantly detrimental impact on ranching and grazing practices.

4-186 / 4.10.6 Regarding impacts to Guest Ranches and Ecotourism

The DEIS states, “The socioeconomic impact on guest ranches and ecotourism would be minor and temporary.” The DEIS visual analysis says that “some vegetation types would not be fully reestablished … for at least 20 years and may take several decades”, resulting in long term impacts to Brown Canyon and Baboquivari Peak visitors. It should be noted that visual impacts from the Elkhorn Ranch would be the same as from Baboquivari Peak Wilderness. Given that the Elkhorn Ranch (like all guest ranches) draws individuals interested in experience open landscapes, the visual scar of a pipeline right-of-way would impact them. Twenty years is certainly not “temporary.”

4-189 / 4.10.7 Environmental Justice

In Table 4.10.7-2, median household incomes in the area are listed as: Three Points - $36,530 and Arivaca -- $35,043; and mention is made that "the majority of communities within the Project area have poverty rates that are similar to or slightly higher than the statewide level." and are "well above the state average in some of these areas." (4-189) The following conclusion: that the pipeline will have minimal impact on the surrounding population..." is not sufficiently demonstrated in the report. The effect of loss of income from tourism due to increased illegal traffic, increased Border Patrol activity, habitat destruction, negative perceptions of the pipeline and the safety of the pipeline in general is never sufficiently demonstrated, it is only projected with statements like "The amount of illegal activity at and near border crossings is dependent on many variables that are not directly measurable." (4.186) An effect that is not directly measurable cannot be used as proof no negative effects. FERC must provide further analysis to demonstrate that their conclusion is substantiated. And even if the project would have only "negligible to minor effects" on economies, the median incomes are alarmingly low and any detrimental effect however slight could be highly detrimental and significant.

4-221 / 4.14 Cumulative Impacts: Environmental Setting

The tone of the environmental setting description is a very negative mockery of the work that both individual ranches and AVCA have done during past decades. It fails to use the best available sources, including Pima County’s publicly available information, and is flagrantly ignorant of historical trends and current goals for the watershed. The notion of the BANWR

being the “sole steward of native grassland and vegetation for native wildlife and endangered species” is patently false and serve no useful purpose here, except to falsely portray the portions of the Altar Valley outside the BANWR as less valuable from an open space and wildlife habitat point of view.

An improved environmental setting description would describe the major differences between three separate portions of the project area: the populated area around Three Points, the portion of where the proposed pipeline follows Highway 286, and the “greenfield” portion where the preferred alternative leaves the highway to cross open country. Given a true analysis of alternatives, the DEIS would be able to describe an alternative that lacks all greenfield development (the highway route) and an alternative that includes greenfield (the western route). It would provide accurate, up-to-date information about the state of vegetation, soil and wildlife in the western half of the Altar Valley. Unfortunately, because this analysis is not in the DEIS, the baseline for cumulative effects is fundamentally wrong and leads to the problems with the rest of the analysis and conclusions in this section.

4-222, 224 & 226 / 4.14 Prescribed Fire and Ranchers

There is a premise that runs through the document that there is a history of prescribed fire by ranchers in the Altar Valley that has contributed to what the DEIS characterizes as “over-grazed, fire-damaged ranch lands”. There is absolutely no historical or scientific basis for this claim about historical fire. There has been very little prescribed fire throughout this past century, except on BANWR. The EIS should analyze how the proposed project will impact the Altar Valley Fire Management Plan, available at http://altarvalleyconservation.org/wp-content/uploads/pdf/Altar_Valley_Fire_Management_Plan.pdf.

4-226 / 4.14.2 Description of Alternative Futures

The cumulative impacts analysis should evaluate alternative futures with varying levels of reclamation success. Based on FERC’s numerous data requests, it is clear that FERC itself is not satisfied with Sierrita’s plans; thus it makes no sense to assume that there will be no impacts.

4-228 / 4.14.3.2 Soil and Surface Water Resources

The cumulative impacts analysis fails to recognize that the on-site and off-site impacts of project restoration efforts that are likely to not be effective. This is acknowledged in parts of the DEIS but the analysis is presented in a contradictory, inconsistent manner. Again, FERC needs to present analyses premised on both mitigation failures and mitigation successes.

4-228 4.14.2.2 Water Quality issues in Nogales Creek, Sonoita Creek & Nogales

What is the purpose of describing water quality issues in Nogales Creek, Sonoita Creek and Nogales, all of which are outside the project area and the region of influence described on p 4-220?

4-229 / 4.14.3.2 Population Increases

The DEIS incorrectly states that the “population increases in the northeastern portion of the watershed from Tucson towards Phoenix”. Does the DEIS refer here to the Santa Cruz watershed or the Altar Valley watershed?

4-230 / 4.14.5 Non-native vegetation and fire

The DEIS statement that the “introduction and spread of non-native vegetation, particularly grasses, has increased the prevalence of fires in these communities, causing extensive damage to native scrub vegetation that cannot withstand the more frequent and hotter

burning fires" does not apply universally to the Altar Valley watershed. While it may apply to areas of buffelgrass, it is not an accurate description of the entire Altar Valley watershed.

4-230 / 4.14.5 Grazing, Ranching Practices and Fire

AVCA strongly objects to the inclusion of grazing and ranching practices and fire as contributors to cumulative impacts. On what basis does FERC make these claims? The DEIS neglects to analyze the actual fire history within the project area.

4-231 / 4.14.6 Wildlife Sources Specific to the Project Area

The wildlife cumulative impact analysis appears to cite general sources, but does not appear to include any discussion based in the project area nor its surroundings.

4-232 / 4.14.8 Special Status Species

AVCA takes issue with FERC's claim that "other private activities such as grazing and restoration projects would not be required to consult on special status species," and the implication that these projects would have cumulative impacts on special status species. What is the basis of these claims?

4-234 / 4.14.9.1 Future Utility Projects

It is interesting to note that the DEIS does acknowledge the possibility of future utility projects seeking use of the proposed pipeline right-of-way, since it would be an impact area. AVCA concurs with this finding. Opening the undeveloped portions of the Altar Valley watershed to development is one of AVCA's major concerns.

4-234 / 4.14.9.2 Cumulative Visual Impacts on an existing right-of-way

AVCA concurs with the DEIS finding that "widening an existing right-of-way to construct the Project would contribute to cumulative visual impacts; however, this impact would be less than if Sierrita were to build an entirely new greenfield pipeline outside of existing rights-of-way.

4-235 / 4.14.10 Proposed measures to limit unauthorized access

AVCA remains skeptical that Sierrita's proposed measures to limit unauthorized access will be capable of assuring no adverse impacts, a concern shared by FERC at various points earlier in the analysis. To express confidence in this portion of the DEIS contradicts earlier DEIS's earlier statements.

5-13 – 5-16 / 5.2 Summary of Requests for Additional Data

FERC summarizes its numerous requests for additional data that Sierrita must file before the end of the DEIS comment period. This information is of vital public interest and merits public review before issuance of a final EIS. FERC must issue a supplemental DEIS to allow public review of this important new information.

Appendix Listings

Appendix A: AVCA December 13, 2012 Letter to FERC (Docket No. PF12-11-000, Accession Number 20121213-5149)

Appendix B: 2001 Altar Valley Conservation Alliance Watershed Resource Assessment - Watershed Action Plan and Final Report