



National Headquarters

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September 6, 2013

Submitted via email to:

Coronado National Forest

Attn: Margie DeRose

300 W. Congress Street

Tucson, AZ 85701

Hermosa Drilling Project: comments-southwestern-coronado@fs.fed.us

Re: Comments in response to the July 31, 2013 scoping notice for the Hermosa Drilling Project, Arizona Minerals, Inc. (AMI), Plan of Operations (PoO) located in the Sierra Vista Ranger District, Santa Cruz County, Arizona.

Dear District Ranger Ruggiero and Ms. DeRose:

Thank you for this opportunity to comment on the proposed Hermosa Drilling Project and the request by Arizona Minerals, Inc. (“AMI”) for approval of a Plan of Operations (“PoO”) for this Project. These comments are submitted on behalf of Defenders of Wildlife, the Patagonia Area Resource Alliance (PARA) and Earthworks, and are intended to supplement any prior or related comments from these organizations and or individual members of these organizations. We also incorporate by reference in these comments all of the comments on the Project submitted by Sky Island Alliance.

Patagonia Area Resource Alliance (“PARA”) is a grassroots organization of volunteer community members committed to protecting and preserving the Patagonia, Arizona area. It is a watchdog organization that monitors the activities of industrial developers such as mining corporations, as well as government agencies, to make sure their actions have long-term, sustainable benefits to our public lands, our watershed, and the town of Patagonia.

Defenders of Wildlife is a national, nonprofit membership organization dedicated to the protection of all native animals and plants in their natural communities. Defenders is committed to protecting wild lands and wildlife in Arizona, and its Southwest office is located in Tucson, Arizona.

Earthworks is a nonprofit organization dedicated to protecting communities and the environment from the impacts of irresponsible mineral and energy development while seeking sustainable solutions.

As an initial matter we agree with your preliminary assessment that the Hermosa Drilling Project does not meet any of the criteria for a Forest Service categorical exclusion (“CE”), established under 36 C.F.R. § 220.6, for exclusion from detailed National Environmental Policy Act (“NEPA”) review in an Environmental Assessment (“EA”) or Environmental Impact Statement (“EIS”). Accordingly, our comments are directed toward issues of concern and which we believe should be considered in a forthcoming EA or EIS.

I. THE EA OR EIS MUST FULLY REVIEW ALL BASELINE CONDITIONS PRIOR TO REVIEWING THE EXPLORATION PROPOSAL

The Plan of Operations submitted by the project applicant seeks approval of a series of wells, pits, drilling and other activities to obtain baseline information on the hydrologic, groundwater, geologic, geotechnical, and other site and area conditions. PoO at Section 4.3. This essentially admits that AMI and the Forest Service currently lack accurate or complete baseline data and information.

The Plan, however, also seeks approval for mineral exploration (drilling, roads, etc.) at the same time as the baseline data on environmental conditions will be gathered. Such approval of mineral exploration operations prior to the agency’s gathering and analysis of baseline conditions would violate NEPA.

The Forest Service is required to “describe the environment of the areas to be affected or created by the alternatives under consideration.” 40 C.F.R. § 1502.15. The establishment of the baseline conditions of the affected environment is a fundamental requirement of the NEPA process:

NEPA clearly requires that consideration of environmental impacts of proposed projects take place *before* [a final decision] is made.” LaFlamme v. FERC, 842 F.2d 1063, 1071 (9th Cir.1988) (emphasis in original). Once a project begins, the “pre-project environment” becomes a thing of the past, thereby making evaluation of the project’s effect on pre-project resources impossible. *Id.* Without establishing the baseline conditions which exist in the vicinity ... before [the project] begins, there is simply no way to determine what effect the proposed [project] will have on the environment and, consequently, no way to comply with NEPA.

Half Moon Bay Fisherman’s Mark’t Ass’n v. Carlucci, 857 F.2d 505, 510 (9th Cir. 1988). “In analyzing the affected environment, NEPA requires the agency to set forth the baseline conditions.” Western Watersheds Project v. BLM, 552 F.Supp.2d 1113, 1126 (D. Nev. 2008) (emphasis added). “The concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process.” Council of Environmental Quality, *Considering Cumulative Effects under the National Environmental Policy Act* (May 11, 1999).

Such baseline information and analysis must be part of the EA/EIS and be subject to public review under NEPA. The lack of an adequate baseline analysis fatally flaws an EA or EIS. “[O]nce a project begins, the pre-project environment becomes a thing of the past and evaluation of the project’s effect becomes simply impossible.” Northern Plains v. Surf. Transp. Brd., 668 F.3d 1067, 1083 (9th Cir. 2011). “[W]ithout [baseline] data, an agency cannot carefully consider information about significant environment impacts. Thus, the agency fail[s] to consider an important aspect of the problem, resulting in an arbitrary and capricious decision.” Id. at 1085.

In Idaho Conservation League, 2012 WL 3758161 (D. Idaho 2012), the Idaho federal court concluded that the Forest Service acted arbitrarily and capriciously by authorizing exploratory hardrock mineral drilling without fully analyzing the baseline groundwater and hydrology. Id. at *17. Such analysis should include “a baseline hydrogeologic study to examine the existing density and extent of bedrock fractures, the hydraulic conductivity of the local geologic formations, and [measures of] the local groundwater levels to estimate groundwater flow directions.” Idaho Conservation League, 2012 WL 3758161, at *16. *See also* Shoshone-Bannock Tribes of Fort Hall Reservation v. U.S. Dept. of Interior, 2011 WL 1743656, at *10 (D. Idaho 2011).

Here, at a minimum, prior to considering or approving any exploration, the Forest Service must first obtain this required information and subject the information and analysis to public review in a draft EA or EIS. As the Plan of Operations acknowledges, exploration may likely affect groundwater – making the gathering of pre-project baseline information critical.

“NEPA requires that the agency provide the data on which it bases its environmental analysis. Such analyses must occur *before the proposed action is approved*, not afterward.” Northern Plains, 668 F.3d at 1083 (emphasis added) (internal citations omitted) (concluding that an agency’s “plans to conduct surveys and studies as part of its post-approval mitigation measures,” in the absence of baseline data, indicate failure to take the requisite “hard look” at environmental impacts). This requirement applies not only to ground and surface waters, but any potentially affected resource such as air quality, recreation, soils, wildlife, etc.

II. THE EA OR EIS MUST FULLY REVIEW ALL DIRECT, INDIRECT, AND CUMULATIVE IMPACTS

The Forest Service must fully review the impacts from all “past, present, and reasonably foreseeable future actions.” These are the “cumulative effect/impacts” under NEPA. To comply with NEPA, the Forest Service must consider all direct, indirect, and cumulative environmental impacts of the proposed action. 40 CFR § 1502.16; 40 CFR § 1508.8; 40 CFR § 1508.25(c). Direct effects are caused by the action and occur at the same time and place as the proposed project. 40 CFR § 1508.8(a). Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. 40 CFR § 1508.8(b). Both types of impacts include “effects on natural resources and on the components, structures, and functioning of affected ecosystems,” as well as “aesthetic, historic, cultural, economic, social or health [effects].” Id. Cumulative effects are defined as:

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

40 CFR § 1508.7. In a cumulative impact analysis, an agency must take a “hard look” at all actions.

An EA's analysis of cumulative impacts must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment. ... Without such information, neither the courts nor the public ... can be assured that the [agency] provided the hard look that it is required to provide.

Te-Moak Tribe of Western Shoshone, 608 F.3d 592, 603 (9th Cir. 2010) (rejecting EA for mineral exploration that had failed to include detailed analysis of impacts from nearby proposed mining operations).

A cumulative impact analysis must provide a “useful analysis” that includes a detailed and quantified evaluation of cumulative impacts to allow for informed decision-making and public disclosure. Kern v. U.S. Bureau of Land Management, 284 F.3d 1062, 1066 (9th Cir. 2002); Ocean Advocates v. U.S. Army Corps of Engineers, 361 F.3d 1108 1118 (9th Cir. 2004). The NEPA requirement to analyze cumulative impacts prevents agencies from undertaking a piecemeal review of environmental impacts. Earth Island Institute v. U.S. Forest Service, 351 F.3d 1291, 1306-07 (9th Cir. 2003).

The NEPA obligation to consider cumulative impacts extends to all “past,” “present,” and “reasonably foreseeable” future projects. Blue Mountains, 161 F.3d at 1214-15; Kern, 284 F.3d at 1076; Hall v. Norton, 266 F.3d 969, 978 (9th Cir. 2001) (finding cumulative analysis on land exchange for one development failed to consider impacts from other developments potentially subject to land exchanges); Great Basin Mine Watch v. Hankins, 456 F.3d 955, 971-974 (9th Cir. 2006)(requiring “mine-specific ... cumulative data,” a “quantified assessment of their [other projects] combined environmental impacts,” and “objective quantification of the impacts” from other existing and proposed mining operations in the region).

Thus, in this case, the Forest Service must consider the cumulative impacts from all past, present, and reasonably foreseeable future projects in the region on, at a minimum, water and air quality including ground and surface water quantity and quality, recreation, cultural/religious, wildlife, transportation/traffic, scenic and visual resources, etc. At a minimum, this requires the agency to fully, review, and subject such review to public comment in a draft EA or EIS, the cumulative impacts from all other mining, grazing, recreation, energy development, roads, etc., in the region. As just one example, what are the impacts on wildlife habitat, migration, etc., from the already-proposed mineral exploration projects in the region?

III. THE EA OR EIS MUST INCLUDE AN ADEQUATE MITIGATION PLAN UNDER NEPA

Under NEPA, the agency must have an adequate mitigation plan to minimize or eliminate all potential project impacts. NEPA requires the agency to: (1) “include appropriate mitigation measures not already included in the proposed action or alternatives,” 40 CFR § 1502.14(f); and (2) “include discussions of: . . . Means to mitigate adverse environmental impacts (if not already covered under 1502.14(f)).” 40 CFR § 1502.16(h). NEPA regulations define “mitigation” as a way to avoid, minimize, rectify, or compensate for the impact of a potentially harmful action. 40 C.F.R. §§1508.20(a)-(e). “[O]mission 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.” Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 353 (1989).

The need for a detailed analysis of mitigation and its effectiveness is required under NEPA.

[T]he Court holds that the Corps’ reliance on mitigation measures that were unsupported by any evidence in the record cannot be given deference under NEPA. The Court remands to the Corps for further findings on cumulative impacts, impacts to ranchlands, **and the efficacy of mitigation measures.**

Wyoming Outdoor Council v. U.S. Army Corps of Eng’rs, 351 F. Supp. 2d 1232, 1238 (D. Wyo. 2005) (emphasis added).

[NEPA] does require that an EIS discuss mitigation measures, with “sufficient detail to ensure that environmental consequences have been fairly evaluated.” Methow Valley, 490 U.S. at 352, 109 S.Ct. 1835.

An essential component of a reasonably complete mitigation discussion is an assessment of whether the proposed mitigation measures can be effective. *Compare* Neighbors of Cuddy Mountain v. U.S. Forest Service, 137 F.3d 1372, 1381 (9th Cir.1998) (disapproving an EIS that lacked such an assessment) *with* Okanogan Highlands Alliance v. Williams, 236 F.3d 468, 477 (9th Cir.2000) (upholding an EIS where “[e]ach mitigating process was evaluated separately and given an effectiveness rating”). The Supreme Court has required a mitigation discussion precisely for the purpose of evaluating whether anticipated environmental impacts can be avoided. Methow Valley, 490 U.S. at 351–52, 109 S.Ct. 1835(citing 42 U.S.C. § 4332(C)(ii)). A mitigation discussion without at least *some* evaluation of effectiveness is useless in making that determination.

South Fork Band Council v. Dept. of Interior, 588 F.3d 718, 727 (9th Cir. 2009)(emphasis added)(rejecting EIS for failure to conduct adequate review of mitigation and mitigation effectiveness in mine EIS). “The comments submitted by [plaintiff] also call into question the efficacy of the mitigation measures and rely on several scientific studies. In the face of such

concerns, it is difficult for this Court to see how the [agency's] reliance on mitigation is supported by substantial evidence in the record.” Wyoming Outdoor Council, 351 F. Supp. 2d at 1251, n. 8.

IV. THE EA OR EIS MUST FULLY REVIEW ALL REASONABLE ALTERNATIVES

NEPA requires the agency to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. § 4332(E); 40 CFR § 1508.9(b). It must “rigorously explore and objectively evaluate all reasonable alternatives” to the proposed action. City of Tenakee Springs v. Clough, 915 F.2d 1308, 1310 (9th Cir. 1990).

In this case, the draft EA or EIS must consider, at a minimum, the following reasonable alternatives: (1) approval of only the baseline-gathering activities; (2) access to each activity without the construction of new or improved roads; (3) reduction in the amount, scope, and impact of each activity or group of activity;

V. AN EIS IS WARRANTED IN THIS CASE

The Project poses potentially significant risks to wildlife (including threatened and endangered species), groundwater and surface water resources, cultural/historical, air quality, recreation, and other resources. It should be noted that, without the required baseline analysis, it is impossible to fully ascertain the level of threats to public land resources. Because of the potentially significant impacts, an EIS is required.

If a proposed action, considered along with cumulative and other impacts, “may” have a significant impact, an EIS must be prepared. A “plaintiff need not show that significant effects will in fact occur.” Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1212 (9th Cir. 1998). Rather, it is enough that “substantial questions whether a project may have a significant effect” on the environment. *Id.* “If the cumulative impact of a given project and other planned projects is significant, [the agency] cannot simply prepare an EA for its project, issue a FONSI, and ignore the overall impact of the project.” Kern v. BLM, 284 F.3d 1062, 1076 (9th Cir. 2002). An EIS “must be prepared if substantial questions are raised as to whether a project may cause significant degradation of some human environmental factor.” Klamath Siskiyou Wildlands Center v. Boody, 468 F.3d 549, 562 (9th Cir. 2006) (quoting Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1150 (9th Cir.1998)). The court noted that in Idaho Sporting, “[w]e explained that ‘[t]he plaintiff need not show that significant effects will in fact occur, but if the plaintiff raises substantial questions whether a project MAY have a significant effect, an EIS must be prepared.’ *Id.* at 1150 (emphasis in original). This is a low standard.” *See also* Te-Moak Tribe of Western Shoshone v. Department of the Interior, 608 F.3d 592, 602 (9th Cir. 2010) (“NEPA requires that where several actions have a cumulative ... environmental effect, this consequence must be considered in an EIS.”).

Without the required review of baseline information, and the potential direct, indirect, and cumulative impacts, any decision not to prepare an EIS is without sufficient evidentiary support.

VI. THE FOREST SERVICE MUST MINIMIZE ALL ADVERSE IMPACTS FROM THE PROJECT

On the National Forests, the Organic Act requires the Forest Service “to regulate their occupancy and use and to preserve the forests thereon from destruction.” 16 U.S.C. § 551. “[P]ersons entering the national forests for the purpose of exploiting mineral resources must comply with the rules and regulations covering such national forests.” Clouser v. Espy, 42 F.3d 1522, 1529 (9th Cir. 1994).

The USFS mining regulations require that “all [mining] operations shall be conducted so as, where feasible, to minimize adverse environmental impacts on National Forest resources.” 36 C.F.R. § 228.8. In addition, the operator must fully describe “measures to be taken to meet the requirements for environmental protection in § 228.8.” 36 C.F.R. 228.4(c)(3). “Although the Forest Service cannot categorically deny a reasonable plan of operations, it can reject an unreasonable plan and prohibit mining activity until it has evaluated the plan and imposed mitigation measures.” Siskiyou Regional Education Project v. Rose, 87 F. Supp. 2d 1074, 1086 (D. Or. 1999)(emphasis added), *citing* Baker v. U.S. Dept. of Agriculture, 928 F.Supp. 1513, 1518 (D. Idaho 1996). “This court does not believe the law supports the Forest Service’s concession of authority to miners under the General Mining Act in derogation of environmental laws and regulations.” Hells Canyon, *supra*, at *6 (finding violation of Organic Act in Forest Service’s failure to minimize adverse impacts to streams). *See also* Rock Creek Alliance v. Forest Service, 703 F.Supp.2d 1152, 1170 (D. Montana 2010) (Forest Service violated Organic Act and 228 regulations by failing to protect water quality and fisheries).

Importantly, a simple and generalized **reduction** of impacts does not equate to the strict requirements for minimization of impacts and protection of resources. The Forest Service’s duty to minimize impacts is **not** met simply by somewhat reducing those impacts. Trout Unlimited v. U.S. Dep’t. of Agriculture, 320 F.Supp.2d 1090, 1110 (D. Colo. 2004). In interpreting the Federal Land Policy and Management Act (FLPMA)’s duty on the agency to “minimize damage to ... fish and wildlife habitat and otherwise protect the environment,” 43 U.S.C. § 1765(a), the court specifically stated the agency’s finding that mitigation measures would “reasonably protect” fisheries and habitat failed to meet its duty to “minimize” impacts. *Id.*

The agency must demonstrate that all feasible means have been required to minimize all adverse impacts to all potentially affected resources. For example, the Ninth Circuit Court of Appeals recently held that the Forest Service had the authority to strictly limit mining claimants’ vehicular access to mining claims. Public Lands for the People v. U.S. Dept. of Agriculture, 697 F.3d 1192 (9th Cir. 2012). As held by the court:

The Secretary of Agriculture has the right to restrict motorized access to specified areas of the national forests, including mining claims. [Clouser v. Espy, 42 F.3d at 1530 (citing 16 U.S.C. § 551)] (means of access “may be regulated by the Forest Service”). More specifically, we have upheld Forest Service decisions restricting the holders of mining

claims to the use of pack animals or other non-motorized means to access their claims. *Id.* at 1536-38. Relatedly, we have rejected the contention that conduct “reasonably incident[al]” to mining could not be regulated. *United States v. Doremus*, 888 F.2d 630, 632-33 (9th Cir. 1989). Our precedent thus confirms that the Forest Service has ample authority to restrict motor vehicle use within the ENF [El Dorado National Forest].

Id. at 1197. Thus, in this case, in order to minimize all adverse impacts, the agency must limit project activities to existing roads. Also, as noted herein, the agency must fully consider such limitations as reasonable alternative(s) under NEPA.

VII. THE FOREST SERVICE’S APPROVAL OF THE PROJECT MUST COMPLY WITH THE ENDANGERED SPECIES ACT

The Patagonia Mountains are one of the most biologically diverse mountain ranges in the Sky Islands.¹ Not surprisingly, these mountains contain existing and potential habitat for numerous threatened, endangered, and otherwise sensitive wildlife and plant species. Arizona Minerals is proposing a large drilling operation in the center of an area that has been identified by the Arizona Game and Fish Department and others as the Patagonia-Santa Rita Linkage Wildlife Corridor. This corridor is the home of an exceptionally large number of species and provides an essential wildlife corridor for species migrating north or south within the region. A list of federally listed threatened, endangered, and Forest Service special status plant and wildlife species known to occur in and/or near the project area, according to the Arizona Game and Fish Department’s online Heritage Data Management System, is attached in Appendix A.

The Forest Service has the responsibility to consider the impacts of the industrial scale activities proposed in the PoO on the flora and fauna of the project site and the surrounding region. The AMI project proposes 16 mounted and 4 portable drill pads, 7 track excavator pads, 11 wheeled drill pads for monitoring wells, and 10 wheeled drill pads for exploration boreholes. These 48 installations will be serviced by 6 drilling rigs, 8 pickup trucks, 13 specialty trucks, 16 trailers, and 3 ATVs. In addition, an array of earthworks equipment including 2 backhoes, 4 loaders, 2 excavators, a hydro-vac and a bulldozer will work 24 hours a day making “4 to 15 trips per day.” An 18 wheel semi, a fork lift, a fuel truck, 1 to 2 1000 to 4500 gallon water trucks, and 3 4WD trucks will be used “as needed” and an axel pipe truck and utility trailer for well installation will operate “up to 24 hours a day.” PoO at Section 4.3.

Arizona Minerals will access the project site by the use of 11 miles of existing Forest Service Roads and proposes “to remove vegetation and trim trees as necessary” on 8.3 miles of FS roads. Furthermore, AMI requests permission to construct 4350 feet of new road construction and install 2” pipeline along the new roads to provide water to the drilling sites. AMI also proposes 21,130 linear feet of “overland vehicle path.” PoO at Section 4.1. To the best of our knowledge, the Forest Service has not consulted with the Fish and Wildlife Service concerning

¹ R. Pulliam, Ph.D., pers. comm.

the proposed Project despite clear indication, described below, that the “may affect” threshold triggering the section 7 consultation requirement is satisfied.²

Imperiled Species

The greatest impact will be on the roughly 13 square mile area where drilling will take place. Below is a partial list of the ‘Species at Risk’ known to occur or have occurred on or in the immediate vicinity of the project site. The list contains all species with NatureServe G1 to G3 ranks that occur in the two quarter quads that encompass the unpatented claim area where most of the proposed drilling will occur.

NAME	COMMON NAME	USES A	USFS	G RANK	S RANK
Poeciliopsis occidentalis occidentalis	Gila Topminnow	LE		G3	S1S2
Ambystoma mavortium stebbinsi	Sonora Tiger Salamander	LE		G5T1T2	S1
Leptonycteris curasoae yerbabuena	Lesser Long-nosed Bat	LE		G4	S2S3
Lithobates chiricahuensis	Chiricahua Leopard Frog	LT		G3	S2
Strix occidentalis lucida	Mexican Spotted Owl	LT		G3T3	S3S4
Coccyzus americanus	Yellow-billed Cuckoo (Western U.S. DPS)	PS:C	S	G5	S3
Astragalus hypoxylus	Huachuca Milkvetch	SC	S	G1	S1
Amsonia grandiflora	Large-flowered Blue Star	SC	S	G2	S2
Pectis imberbis	Beardless Chinch Weed	SC	S	G3	S1
Catostomus clarkii	Desert Sucker	SC	S	G3G4	S3S4
Ammodramus bairdii	Baird's Sparrow	SC	S	G4	S2N
Choeronycteris mexicana	Mexican Long-tongued Bat	SC	S	G4	S3
Rana yavapaiensis	Lowland Leopard Frog	SC	S	G4	S3
Accipiter gentilis	Northern Goshawk	SC	S	G5	S3
Buteo plagiatus	Gray Hawk	SC	S	G5	S3
Agosia chrysogaster chrysogaster	Gila Longfin Dace	SC	S	G4T3T4	S3S4
Myotis velifer	Cave Myotis	SC		G5	S3S4
Rhinichthys osculus	Speckled Dace	SC		G5	S3S4
Hedeoma dentatum	Mock-pennyroyal			G3	S3
Calephelis arizonensis	Arizona Metalmark			G3G4	S2
Solanum lumholtzianum	Lumholtz Nightshade			G3G4	S3
Stevia lemmonii	Lemmon's Stevia		S	G3G4	S2
Tragia laciniata	Sonoran Noseburn		S	G3G4	S3?

In total 3 endangered (LE), 2 threatened (LT), and thirteen candidate (SC) species are known to occur or have occurred on or in the immediate vicinity of the project site. Many of the

² See 50 C.F.R. § 402.14.

species listed above occur within the unpatented claim area, and all have been known to occur within 2 miles of one or more of the proposed drilling sites.

The drilling and road building activities proposed by AMI pose a risk to every species listed above. For example, the Huachuca Milkvetch is a G1 (“critically impaired”) species that is known to presently occur within the unpatented claim boundary. This species was first discovered in the Huachuca Mountains in 1882 and was not found again until 1986 when a small population was discovered in the Patagonia Mountains. The species is known to occur in the immediate vicinity of proposed drilling and road building activity and is highly vulnerable to trampling.

The lesser long-nosed bat is an endangered species known to occur on the site proposed for drilling and road building activities. The south-facing slopes and much of the ridge-top habitat within the unpatented claim area provide excellent foraging habitat for lesser long-nosed bat and other nectar-feeding bat species. Two primary food sources (*Agave palmeri* and *parryi*) for the endangered bats have been observed at the exact locations of some of the proposed drill pads.³ Human activity associated with the Project is likely to destroy these essential food sources. We believe that the proposed exploratory drilling will also degrade habitat of Mexican spotted owl. Noise and light from the exploratory drilling has the potential to reduce nesting success of both lesser long-nosed bats and Mexican spotted Owl.

Although not included in the list of Species at Risk known to occur on the project site, the project area provides probable habitat connectivity for jaguar and ocelots, both are federally listed as endangered. The Patagonia Mountains are in a strategic location connecting the mountains of northern Mexico to the Sky Islands of southeastern Arizona. The most likely route for a jaguar travelling from northern Mexico to the Santa Rita Mountains is through the Patagonia Mountains. Substantial portions of the south-facing slopes, including areas within meters of proposed drilling sites, have the characteristics of good ocelot foraging habitat, including meeting the published criteria for canopy height, visual obscurity, ground cover, and coarse woody debris. There is evidence that ocelot populations in northern Mexico are increasing, and several individuals have been sighted or photographed in the borderlands region in the past two years. The proposed exploratory drilling would disrupt this important habitat connectivity region. Particularly, the impact of noise from drilling operations has significant potential to slow the recovery of both jaguar and ocelot in southern Arizona.

Jaguar and Ocelot

The Patagonia Mountains are critical for the recovery and movement of jaguars, ocelots, and other species that inhabit the region, both as core habitat and as a wildlife corridor. The Patagonia range crosses the international border, creating a bridge for species movement and providing an excellent wildlife corridor for species migrating north or south within the region. According the Arizona Game and Fish Department (see Appendix A), this project falls within the designated Patagonia-Santa Rita Linkage Wildlife Corridor. Moreover, the Patagonia Mountains’ closeness to other ranges where jaguars and ocelots have been found, in all

³ See comments submitted September 6, 2013 by H. Ronald Pulliam for this project.

directions, sets this range right in the heart of potential habitat and makes the area critical for species connectivity across the region. Because it is located within the Patagonia range, the proposed project will impact and fragment northern jaguar and ocelot habitat.

Jaguar

The Sky Island mountain ranges that line the U.S.-Mexico border, including the Patagonia, Baboquivari, Atascosa, Huachuca, and Peloncillo Mountains, as well as several additional ranges in Arizona and Sonora, are historical and potential habitat for the federally endangered jaguar (*Panthera onca*). Accordingly, the Fish and Wildlife Service included the Patagonia Mountains in its August 20, 2012 jaguar critical habitat proposal.⁴

In the proposed rule, the Service identified “expansive open spaces in the United States of at least 84 to 100 square km (32 to 37 square mi) in size with connectivity to Mexico, adequate native prey and available surface water, suitable vegetative cover and rugged topography to provide sites for resting, and minimal human impact as the essential components of the physical or biological feature essential for the conservation of the jaguar in the United States.”⁵ Areas of “minimal human impact” are defined as areas which “[a]re characterized by minimal to no human population density, no major roads, or no stable nighttime lighting over any 1-square-km (0.4-square-mi) area.”⁶ The Service acknowledged that habitat connectivity is crucial, stating that “connectivity between areas of habitat for the jaguar in the United States is necessary if viable habitat for the jaguar is to be maintained,” and “[t]his is particularly true in the mountainous areas of Arizona and New Mexico. . . .”⁷

The Service called special attention to the threat posed by mining activity to jaguar habitat in mountain ranges such as the Patagonias:

Jaguar habitat and the features essential to their conservation are threatened by the direct and indirect effects of increasing human influence into remote, rugged areas, as well as projects and activities that sever connectivity to Mexico. These may include . . . mineral extraction and mining operations; . . . and human disturbance related to increased activities in or access to remote areas.⁸

Mining and the increased human disturbance that accompanies a mining project “may render an area unsuitable for jaguars.”⁹ Due to these impacts, the Service concludes that “[f]uture projects should avoid (to the maximum extent possible) areas identified as meeting the definition of

⁴ See 77 Fed. Reg. 50214 (Aug. 20, 2012).

⁵ Id. at 50220.

⁶ Id. at 50224.

⁷ Id. at 50220.

⁸ 77 Fed. Reg. at 50224.

⁹ Id.

critical habitat for jaguars, and if unavoidable, should be constructed or carried out to minimize habitat effects.”¹⁰

The Patagonia Mountains contain the physical and biological features essential to jaguar conservation. They provide remote, unfragmented, Madrean evergreen woodland habitat that connects jaguar populations in Sonora, Mexico, with jaguar habitat in the Patagonias and in other adjacent mountain ranges in southeast Arizona—the Santa Ritas, the Whetstones, the Canelo Hills, and the Huachucas. The current nighttime view from Red Mountain at the northern end of the Patagonia range is of darkened, uninhabited wild lands extending into Mexico. The region is highly rugged, with sufficient surface waters and minimal human population density, and has historically been a hotspot for jaguar occurrences in Arizona.

Brown and Lopez-Gonzales (2001, page 6, Table 1) list at least seven jaguars reportedly killed or photographed in the Patagonia Mountains area, dating from 1904 (2 jaguars), 1926 (1, maybe two jaguars), 1932/33 (1 jaguar), 1948 (1 jaguar), and one from 1965. Additionally, given the wide ranges that jaguars occupy and move through, it is critically important to consider the jaguar’s recent presence in mountain ranges near the Patagonias. In the last decade (from 2001-2007), McCain and Childs (2008) monitored at least two jaguars (“Macho A” and “Macho B”) on several mountain ranges (the Atascosa, Tumacacori, and Baboquivari Mountains) west of the Patagonia Mountains (30-60 miles away). In 2010 and 2011, Sky Island Alliance documented two different jaguars 40 miles south of the Patagonia Mountains. In June 2011, a U.S. Border Patrol helicopter pilot reported a jaguar sighting in the Santa Rita Mountains approximately 20 miles north of the Patagonias and in November 2011, the Arizona Game and Fish Department confirmed a hunter’s jaguar sighting southeast of Tucson in the Whetstone Mountains, approximately 30 miles northeast of the Patagonias. Most recently, a photograph taken on September 23, 2012 southeast of Tucson was confirmed to be of a jaguar tail. Considering that the estimated minimum home range of a northern jaguar can be up to 525 square miles, the Patagonia Mountain area is highly important at a regional level for habitat connectivity, moving corridors, and potential territories to be established completely or in part in the Patagonia Mountains.

Ocelot

Many of the habitat and connectivity requirements associated with jaguars are also applicable to ocelots. Given that the most distant portions of species’ distributions are many times the last refuge for their survival, the northern extent of the ocelot’s range in southeastern Arizona, including the Patagonia Mountains, could prove to contain enough suitable habitat and prey species to support a breeding population and may also be crucial from an evolutionary perspective. As an example, one of SIA’s photographs is of an ocelot walking on fresh snow in oak woodland, which may indicate the animal’s adaptation to more temperate climates, and is possibly a wholly unique find for the species.

The Project sits 30 to 40 miles from locations where ocelots (*Leopardus pardalis*) have been documented, both in Arizona and Sonora, Mexico. SIA has systematically documented ocelots 40 miles to the southeast, in the Sierra Azul Mountains, since 2007. Similarly, in 2009,

¹⁰ Id. at 50225.

SIA documented an ocelot in Cochise County, 20-30 miles to the northeast of the Patagonia Mountains. In February and May 2011, the Arizona Game and Fish Department documented two separate ocelot sightings approximately 20 miles from the proposed mine area, in the Huachuca Mountains. The habitat type, elevation, and physical characteristics of each place are extremely similar, leading biologists to believe that the project area is also potential ocelot habitat.

To the best of our knowledge, no long-term monitoring efforts have been conducted in the Patagonia Mountains to determine the presence of ocelots. However, numerous sightings in the area describing small, spotted cats lead biologists to think that this species could be present in the area. This information fits with historical records that document ocelots in Patagonia (1960), the Huachuca Mountains (1964), and the San Pedro River Valley (1980).

Through the use of remote sensing cameras, from 2007 through 2011, the ocelot has been recorded as close as forty miles south of the Patagonia Mountains. To date, SIA has confirmed the northernmost known breeding population (presence of males, females, and kittens) of this tropical feline within short distances of the United States, suggesting that ocelots may be traveling northward or currently residing in southern Arizona. Estimated dispersal distances for ocelots in south Texas are between 3 to 20 miles (Caso, 1994; Crawshaw, 1995), which is similar to the distance between the northernmost breeding population and sightings in Arizona.

Ocelots are notoriously difficult to detect, particularly in low densities such as they exist in their northern range. It is possible that all of these occurrences of ocelots are connected by existing corridors and are part of an established population. It is highly probable that ocelots documented in northern Sonora and in Arizona are connected by migrating corridors, including the Patagonia Mountains, and therefore these ocelot occurrences potentially represent localities of an established trans-boundary population. This possibility is based on observations of open lands in northern Sonora and southern Arizona, where extensive patches of undeveloped lands – including both private ranches and public lands – contain suitable habitat and prey species to support a healthy cross-border ocelot meta-population. Even though these recently documented ocelots in Arizona could represent dispersing males, there has not been enough field research to determine the source population, their preferred habitats, their migrating corridors, or even existence of established ocelot populations along the borderlands. Despite the lack of research, one reasonable explanation of the recent occurrences of ocelots in southern Arizona is that they may have originated from a breeding population somewhere south of the U.S. border, and used the Patagonia Mountains as a travel corridor.

VIII. THE AGENCY MUST BEGIN AND COMPLETE CONSULTATION UNDER THE NHPA WITH ALL POTENTIALLY AFFECTED NATIVE AMERICAN TRIBES

Prior to proceeding with its review of the project, the agency must initiate and complete consultation under the National Historic Preservation Act (NHPA).

[T]he fundamental purpose of the NHPA is to ensure the preservation of historical resources. *See* 16 U.S.C. § 470a(d)(1)(A) (requiring the Secretary to “promulgate

regulations to assist Indian tribes in preserving their particular historic properties” and “to encourage coordination ... in historic preservation planning and in the identification, evaluation, protection, and interpretation of historic properties”); *see also Nat'l Indian Youth Council v. Watt*, 664 F.2d 220, 226 (10th Cir.1981) (“The purpose of the National Historic Preservation Act (NHPA), is the preservation of historic resources.”). Early consultation with tribes is encouraged by the regulations “to ensure that all types of historic properties and all public interests in such properties are given due consideration....” 16 U.S.C. § 470a(d)(1)(A).

Te-Moak Tribe of Western Shoshone v. U.S. Department of the Interior, 608 F.3d 592, 609 (9th Cir. 2010).

Under the NHPA, a federal agency must make a reasonable and good faith effort to identify historic properties, 36 C.F.R. § 800.4(b); determine whether identified properties are eligible for listing on the National Register based on criteria in 36 C.F.R. § 60.4; assess the effects of the undertaking on any eligible historic properties found, 36 C.F.R. §§ 800.4(c), 800.5, 800.9(a); determine whether the effect will be adverse, 36 C.F.R. §§ 800.5(c), 800.9(b); and avoid or mitigate any adverse effects, 36 C.F.R. §§ 800.8[c], 800.9(c). The [federal agency] must confer with the State Historic Preservation Officer (“SHPO”) and seek the approval of the Advisory Council on Historic Preservation (“Council”).

Muckleshoot Indian Tribe v. U.S. Forest Service, 177 F.3d 800, 805 (9th Cir. 1999). *See also* 36 CFR § 800.8(c)(1)(v)(agency must “[d]evelop in consultation with identified consulting parties alternatives and proposed measures that might avoid, minimize or mitigate any adverse effects of the undertaking on historic properties and describe them in the EA.”)

The Advisory Council on Historic Preservation (“ACHP”), the independent federal agency created by Congress to implement and enforce the NHPA, has exclusive authority to determine the methods for compliance with the NHPA’s requirements. *See National Center for Preservation Law v. Landrieu*, 496 F. Supp. 716, 742 (D.S.C.), *aff’d per curiam*, 635 F.2d 324 (4th Cir. 1980). The ACHP’s regulations “govern the implementation of Section 106,” not only for the Council itself, but for all other federal agencies. *Id.* *See National Trust for Historic Preservation v. U.S. Army Corps of Eng’rs*, 552 F. Supp. 784, 790-91 (S.D. Ohio 1982).

NHPA § 106 (“Section 106”) requires federal agencies, prior to approving any “undertaking,” such as approval of the project, to “take into account the effect of the undertaking on any district, site, building, structure or object that is included in or eligible for inclusion in the National Register.” 16 U.S.C. § 470(f). Section 106 applies to properties already listed in the National Register, as well as those properties that may be eligible for listing. *See Pueblo of Sandia v. United States*, 50 F.3d 856, 859 (10th Cir. 1995). Section 106 provides a mechanism by which governmental agencies may play an important role in “preserving, restoring, and maintaining the historic and cultural foundations of the nation.” 16 U.S.C. § 470.

If an undertaking is the type that “may affect” an eligible site, the agency must make a reasonable and good faith effort to seek information from consulting parties, other members of the public, and Native American tribes to identify historic properties in the area of potential effect. *See* 36 CFR § 800.4(d)(2). *See also* Pueblo of Sandia, 50 F.3d at 859-863 (agency failed to make reasonable and good faith effort to identify historic properties). Consultation “must be ‘initiated early in the undertaking’s planning, so that a broad range of alternatives may be considered during the planning process for the undertaking.’” Pit River Tribe v. U.S. Forest Service, 469 F.3d 768, 787 (9th Cir. 2006).

The NHPA also requires that federal agencies consult with any “Indian tribe ... that attaches religious and cultural significance” to the sites. 16 U.S.C. § 470(a)(d)(6)(B). Consultation must provide the tribe “a reasonable opportunity to identify its concerns about historic properties, advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance, articulate its views on the undertaking’s effects on such properties, and participate in the resolution of adverse effects.” 36 CFR § 800.2(c)(2)(ii). “The agency official **shall ensure that the section 106 process is initiated early in the undertaking’s planning**, so that a broad range of alternatives may be considered during the planning process for the undertaking.” 36 CFR § 800.1(c) (emphasis added).

The NHPA requires that consultation with Indian tribes “recognize the government-to-government relationship between the Federal Government and Indian tribes.” 36 CFR § 800.2(c)(2)(ii)(C). *See also* Presidential Executive Memorandum entitled “Government-to-Government Relations with Native American Tribal Governments” (April 29, 1994), 59 Fed. Reg. 22951, and Presidential Executive Order 13007, “Indian Sacred Sites” (May 24, 1996), 61 Fed. Reg. 26771.

Here, it does not appear that the agency has begun this consultation for this project – this is required both under NEPA (to review all baseline information and potential impacts regarding cultural and historical resources) as well as the NHPA.

We appreciate the opportunity to comment on this proposed action. Please continue to include PARA and Defenders of Wildlife as interested parties and direct all future public notices and documents to us at the addresses below.

Sincerely,

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