



National Headquarters

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October 17, 2020

Submitted online to:

Coronado National Forest
Sierra Vista Ranger District
District Ranger, c/o Rick Goshen
4070 S. Avenida Saracino
Hereford, AZ 85615

Re: Comments in response to the September 2, 2020 scoping notice for the San Antonio Exploration Drilling Project, IC Explorations.

Dear Mr. Goshen,

We are writing this letter in response to the scoping notice for the San Antonio Exploration Drilling Project, IC Explorations located in the Sierra Vista Ranger District. We appreciate the opportunity to submit comments on the Forest Service's intention to approve this project with a categorical exclusion.

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 Santa Fe, New Mexico, with staff in Tucson, Arizona.

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 our town.

Sky Island Alliance is a nonprofit that strives to protect and restore the diversity of life and lands in the Sky Island region of the U.S. and Mexico. We're working to ensure the Sky Islands are a place where nature thrives, open space and clean water are available to all, and people are connected to the region and its innate ability to enrich our lives.

Tucson Audubon Society was founded in 1949 and is Southeast Arizona's leading non-profit engaging people in the conversation of birds and their habitats. Staff of this organization have expertise in Western Yellow-billed Cuckoos and have been surveying these birds since 2011 and

specifically in Sky Island mountain range habitats of Southeast Arizona since 2015.

I. Regulatory reasons why a categorical exclusion is not appropriate for this project

At first glance the project may appear to meet criteria for a Categorical Exclusion (CE) under the National Environmental Policy Act (NEPA). However, the Forest Service regulations, as per the Forest Service Handbook¹, specifies that a categorical exclusion may be used “only if there are no extraordinary circumstances related to the proposed action...” Contrary to the Forest Service’s assertion in its September 2 scoping notice, there are Extraordinary Circumstances that require assessment under NEPA at least at the Environmental Assessment (EA) level as per 40 CFR §1501.4(b)(2), as detailed in the following sections.

Note that in a 2019 Forest Service document explaining proposed changes in categorical exclusions, the agency affirmed its commitment to best available science: “The reforms will improve or eliminate inefficient or redundant processes, while maintaining a commitment to high-quality environmental analysis based on the best available science.”² However, the company’s Plan of Operations (POO) uses outdated evidence, particularly for the western yellow-billed cuckoo, as detailed below, and draws unsubstantiated conclusions not supported by the evidence put forward. Therefore, the Forest Service cannot rely on information and analysis adduced by the applicant and must conduct its own analysis.

ESA-listed species. One of the categories of extraordinary circumstances listed in the Forest Service Handbook is “Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species...”³ Most relevant are western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), jaguar (*Panthera onca*), and Sonoran tiger salamander (*Ambystoma tigrinum stebbinsi*), as below.

- **Western yellow-billed cuckoo.** The cuckoo’s status as federally threatened was reaffirmed by the US Fish and Wildlife Service (USFWS) in September 2020 following scientific review. The POO sections pertaining to the cuckoo rely on outdated biological information and incorrectly state that riparian habitat is a prerequisite for cuckoo presence, with the most recent reference cited being from 2015. The POP states that “No known [cuckoo] records occur within or near the Project Area. No nesting habitat for this species exists within the Project Area, as riparian habitat is lacking.” However, cuckoo habitat likely occurs on or near the site, as per the evidence provided in the “Detailed information supporting the above requirements” section below and in the Expert Statement by Jonathan Horst on behalf of Tucson Audubon Society cuckoo experts (submitted to USFS in conjunction with this comment letter). More recent studies than those invoked by the applicant have shown that riparian habitat is not necessary for cuckoo presence, and have found

1 USFWS, 3/16/2020. 31.2

2 USFS. 2019. Supplementing 36 CFR Part 220: Proposed Categorical Exclusions for Certain Special Use Projects: Supporting Statements.
<https://www.fs.fed.us/emc/nepa/revisions/includes/docs/SpecialUsesCEsSupportingStatement.pdf>

3 USFWS and NOAA 2019. Endangered and Threatened Wildlife and Plants; Regulations for Listing Species and Designating Critical Habitat. 16 U.S.C. § 424.12(b)(2)

nesting cuckoos in arid ephemeral drainages, including habitat consisting of grassland and shrublands in the Patagonia Mountains and other Sky Islands,⁴ similar to the project site and surroundings. Compared to the riparian habitats that have long been considered typical for western yellow-billed Cuckoos, the southern Arizona upland habitats where cuckoos nest, away from rivers and perennial streams, are much more varied. The variety of these upland habitats is reflected in the range of nest trees used by cuckoos, including oak, hackberry, juniper, Arizona ash, acacia, and Arizona cypress. These upland habitats used by nesting yellow-billed cuckoos range from extensive Madrean Encinal oak woodlands to low, arid mesquite flats and areas of desert scrub. The Madrean Encinal habitats are found at mid elevations and are broad and extensive, with oak woodland along dry canyons and on adjacent slopes. The woodland may have interspersed grassland, savanna mixtures of grass and trees, and scattered ash, sycamore, and other riparian species immediately along dry stream channels. A strong summer monsoon in this southern Arizona region brings thunderstorms and higher humidity levels, which may directly or indirectly affect yellow-billed cuckoo use of the upland habitats such as the project area. The Forest Service must determine whether cuckoos are present or would be affected by carrying out at least an EA-level analysis, including a survey.

- **Jaguar.** An extraordinary circumstance also occurs given that the project area includes jaguar critical habitat, which designation means that USFWS determined that said area is “essential for the conservation of the species.”⁵ In designating jaguar critical habitat, USFWS chose areas of “minimal human impact” as one of the “essential components of the physical or biological features essential for the conservation of the jaguar in the United States.”⁶ Given that USFWS has previously found this critical habitat area essential for the jaguar’s conservation and required that it have minimal human impact in order to qualify as critical habitat, it is essential that a project within such critical habitat be analyzed under NEPA at least at the EA level, including a formal Section 7 consultation with USFWS. For the Forest Service to grant a categorical exclusion for a project within critical habitat without such analysis undermines the intent of the Endangered Species Act’s requirement for Section 7 consultation to determine whether such action will damage or destroy critical habitat.⁷
- **Sonoran tiger salamander.** In recent survey identified this endangered species living approximately one mile from the project site. Potential effects on this species, including the possibility of water contamination or siltation, should be evaluated.

Human health and safety. An additional extraordinary circumstance is that the project poses a risk to human safety from project-associated road traffic and possibly water contamination. The regulation 40 CFR § 1508.1(d) defines a categorical exclusion as “a category of actions that the

4 Susan Sferra, Charles Drost, Tad Theimer, and Nick Beauregard. 2018. Investigating Western Yellow-Billed Cuckoo Breeding Status in the Mountains of Southeastern Arizona; Implications for Recovery Annual report, 2018.

5 Endangered Species Act of 1973. Section 3 Definitions 5(A)

6 Id. at 50220.

7 Forest Landowners. How The ESA Works. 2020. <https://www.forestlandowners.com/esa/how-the-esa-works/>

agency has determined, in its agency NEPA procedures (§ 1507.3 of this chapter), normally do not have a significant effect on the human environment.”⁸ Note that “human environment” is broadly defined as “comprehensively the natural and physical environment and the relationship of present and future generations of Americans with that environment.”⁹ This includes not only forest resources, such as trees and wildlife, but also human health and safety. According to CEQ’s regulations published on July 16, 2020, “effects” to be analyzed during a NEPA process include “aesthetic, historic, cultural, economic (such as the effects on employment), *social, or health effects*”¹⁰ (emphasis added)¹¹. Further, Section § 1501.3(b)(2) requires agencies to look at “effects on public health and safety.”

Although the Forest Service Handbook does not list human health and safety as one of the “resource conditions that should be considered” in evaluating whether a CE is warranted, it is clear from CEQ regulations at § 1508.1(g)(1) and § 1501.3(b)(2) that such health and safety effects may and should be considered by the Forest Service. We note that the language in the Forest Service Handbook which specifies a list of “resource conditions that should be considered” does not specify that only the listed conditions should be considered, leaving the responsible official free to consider health and safety. This interpretation is substantiated by the 2019 Forest Service *Supporting Statements* for proposed categorical exclusions: “The list [of resource conditions] is intended as a starting place and does not preclude consideration of other factors or conditions by the responsible official. The responsible official relies on many sources of information in making a determination concerning extraordinary circumstances, including input from the public, input from the interdisciplinary team process, and consultation with other agencies.”¹²

Uncertainty of effects. Uncertainty about the degree of the above effects does not green light a categorical exclusion; in fact, the opposite. The Forest Service Handbook at 31.2 states, “If the degree of potential effect raises uncertainty over its significance, then an extraordinary circumstance exists, precluding use of a categorical exclusion.” Herein, we provide enough information to raise at least a strong possibility that one or more of the following will be harmed by the project: yellow-billed cuckoos, jaguars and human safety. Even though information may be inconclusive at the moment, the uncertainty itself requires the agency to do a NEPA assessment.

Effect/Impact of this action considered with other actions. The impact of the proposed project will be more significant when combined with the impacts of other exploration activities or other disturbance activities located near the project, and therefore the effects of these projects on the environment must be analyzed. Relevant projects to be considered are listed below in Section II, “Detailed information supporting the above requirements.”

Prior to September 18, 2020, federal agencies analyzing the effects of an action under NEPA had to consider what were termed in the regulations as “cumulative effects,” defined as “the

⁸ CEQ 2020. Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act. § 1508.1(m)

⁹ § 1508.1(g)(m). <https://www.federalregister.gov/d/2020-15179/p-1225>

¹⁰ 16 U.S.C. § 424.12(g)(1). <https://www.federalregister.gov/d/2020-15179/p-1225>

¹¹ § 1508.1(g)(1). <https://www.federalregister.gov/d/2020-15179/p-1217>

¹² USFS Ecosystem Management Coordination. 2019. Supplementing 36 CFR Part 220: Proposed Categorical Exclusions for Certain Special Use Projects: Supporting Statements. <https://www.fs.fed.us/emc/nepa/revisions/includes/docs/SpecialUsesCEsSupportingStatement.pdf>

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.”¹³

Although the term cumulative effects was removed from the CEQ regulations on July 16, 2020,¹⁴ the obligation to consider effects of other actions that extend beyond the action area in time and space continues in the new regulations. The new regulations define effects or impacts as “changes to the human environment from the proposed action or alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives, *including those effects that occur at the same time and place as the proposed action or alternatives and may include effects that are later in time or farther removed in distance from the proposed action or alternatives* (emphasis added). The 2020 revised CEQ regulations state that NEPA analysis should include “the reasonably foreseeable environmental trends and planned actions in the area(s).”¹⁵ The CEQ Federal Register entry “Regulations Implementing the Procedural Provisions of the National Environmental Policy Act” explains that, “To the extent environmental trends or planned actions in the area(s) are reasonably foreseeable, the agency should include them in the discussion of the affected environment. Consistent with current agency practice, this also may include non-Federal planned activities that are reasonably foreseeable.”¹⁶

Appropriate spatial scale for analysis. The Endangered Species Act defines action area as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.”¹⁷ The area to be considered for NEPA analysis must be chosen for each action, including consideration of related actions occurring at other times and places. Because the effects of noise and disturbance on wildlife may occur at a significant remove from the project activities, the larger area of potential impact should be analyzed. In the case of a drilling project, potential pollution effects could travel some distance through ground water or surface runoff.

Although the term “cumulative effects” is no longer in the CEQ 2020 regulations, the regulations make clear that such analysis of multiple actions is still required. Given this, we can look to past guidance by CEQ on how an area of analysis should be defined that will consider the various actions that could influence the effects of the project. According to CEQ, “for a proposed action” the analysis should “[d]etermine the geographic areas occupied by those resources outside of the project impact zone. In most cases, the largest of these areas will be the appropriate area for the analysis of cumulative effects.”¹⁸

In the case of the present action, the analysis should include the range of the western yellow-billed cuckoo in at least the Patagonia Mountains, and likely should include the San Rafael Grasslands, and the Huachuca and Santa Rita Mountains because it is highly likely that

13 40CFR § 1508.7

14 1508.1(g)(3). <https://www.federalregister.gov/documents/2020/07/16/2020-15179/update-to-the-regulations-implementing-the-procedural-provisions-of-the-national-environmental-h-174>.

15 40CFR § 1502.15

16 85 FR 43304

17 50 CFR § 402.02

18 CEQ. *Considering Cumulative Effects Under the National Environmental Policy Act*. <https://ceq.doe.gov/docs/ceq-publications/ccenepa/sec2.pdf>. P. 15.

individuals in these locations constitute a single interbreeding population (see “Detailed Information” below). Not only should the effects of the project outline in the POO be analyzed within this broader area, but the analysis should include other actions, present or future, that could affect the population.

For the jaguar, an absolute minimum would be to consider the home range of a single jaguar, which could encompass the entire Patagonia Mountains. For human safety, analysis should consider at least the entire travel route to be shared by residents and project traffic. For water safety, analysis should include all connected ground water that could be affected by drilling, as well as any areas that could be contaminated by a pit containment failure. Again, effects of other actions affecting these resources should be included.

Need for Consultation with the Fish and Wildlife Service

The Forest Service has a duty under section 7 of the ESA to insure that its actions do not jeopardize listed species or destroy or adversely modify their designated critical habitat.¹⁹ The Forest Service’s duty exists regardless of the level of NEPA review ultimately conducted by the agency. 16 U.S. Code § 1536 (a)(2) states that the agency must consult with the Fish and Wildlife Service “if the applicant has reason to believe that an endangered species or a threatened species may be present in the area affected by his project and that implementation of such action will likely affect such species.”

We provide evidence herein that the assertions by the applicant that cuckoo habitat is not present should not be relied on by the Forest Service, given expert evidence to the contrary; likewise for the applicant’s unsubstantiated assertion that the “potential for occurrence of jaguar is low because “more open, dry habitat has been characterized as marginal”²⁰. Jaguars have historically used open, dry habitat, as evidenced by the most authoritative survey of jaguar occurrences in Arizona and New Mexico by Brown and López González, who found that 16% of 69 occurrences were in “semi-desert grassland” with additional animals in scrub²¹. For both jaguar and cuckoo, evidence suggests that assertions by the applicant in the POO are unfounded. Although it is not certain either animal is or will be present, uncertainty alone is enough to preclude use of a categorical exclusion (see “Uncertainty of Effects” section below). Moreover, the Forest Service must consult with the Fish and Wildlife Service to determine what the likely impacts to listed species and their habitat will be; it cannot rely on unsupported statements from the proponent that no threatened or endangered species will be affected.

II. Detailed information supporting the above requirements

Western Yellow-billed Cuckoo. Tucson Audubon conducted Yellow-billed Cuckoo surveys in the Patagonia Mountains in 2015 on behalf of the Coronado National Forest using official USFWS protocols.²² Many drainages surveyed in this mountain range had positive detections with breeding behavior documented. A positive Western Yellow-billed Cuckoo detection was

¹⁹ See 16 U.S.C. § 1536(a)(2)

²⁰ Plan of Operations: San Antonio Exploratory Drilling Project, 2020. P. 13.

²¹ Brown, DE and C. A. López González, 2002. Borderland Jaguars, Table 1

²² Halterman, M.D., M.J. Johnson, J.A. Holmes and S.A. Laymon. 2016. A Natural History Summary and Survey Protocol for the Western Distinct Population Segment of the Yellow-billed Cuckoo: U.S. Fish and Wildlife Techniques and Methods, 45 p.

documented on July 22, 2015 at 10:02am at coordinates 31.379531, -110.6727913 with a compass bearing of 140 degrees, approx. 150 meters away from the recorded coordinate.²³ This location was part of the Finley and Adams Canyon survey route and very close to the proposed project area. All data from all Western Yellow-billed Cuckoo surveys done by Tucson Audubon was submitted to the USFWS and this official detection is a direct contradiction to the assertion that Western Yellow-billed Cuckoos have not been found near the proposed project site.

In addition to this documented survey detection very near the actual proposed project site, the habitat within the site is very like habitat where Western Yellow-billed Cuckoos were detected with breeding behavior documented in the similar Canelo Hills²⁴ (see photos in Jonathan Horst's Expert Statement, submitted in conjunction with this comment letter). Both Cherry Creek and Dove Canyon within the Canelo Hills were surveyed in 2016 by Tucson Audubon and have very similar habitat to the proposed project site of dispersed oak savannah grassland. Jonathan Horst's Expert Statement states, "The exact Project Site was not observed but previous surveys within the same drainage adjacent to the Project Site make us confident that the site and surrounding area is potential cuckoo breeding habitat."

Jaguar. The Patagonia Mountains are critical for the recovery and movement of jaguars and ocelots, 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. It falls within the designated Patagonia-Santa Rita Linkage Wildlife Linkage Zone (#96).²⁵ Moreover, the Patagonia Mountains' closeness to other ranges (e.g. the Huachucas and Santa Ritas) where jaguars have been found sets this range right in the heart of potential habitat and makes the area critical for connectivity.

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. Accordingly, the Fish and Wildlife Service included the Patagonia Mountains in its March 5, 2014 designation of jaguar critical habitat, along with the nearby Santa Rita, Empire, and Huachuca Mountains and the Grosvenor and Canelo Hills.²⁶ Together these form critical habitat Unit 3, habitat patches with connectivity for jaguars to travel from one to patch to another.

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.

In the critical habitat rule, the Service identified as essential "expansive open spaces in the

23 MacFarland, J. & J. Horst. Yellow-billed Cuckoo Surveys on the Coronado National Forest within Eight Sky Island Mountain Ranges in SE Arizona. October 2015

24 MacFarland, J. & J. Horst. Yellow-billed Cuckoo Surveys on the Coronado National Forest within Five Sky Island Mountain Ranges in SE Arizona. September 2016).

25 Arizona Wildlife Linkages Workgroup. 2006. Arizona's Wildlife Linkages Assessment. p. 107.

26 See 79 Fed. Reg. 12572 (Mar. 5, 2014).

United States of at least 100 square km [32 to 37 square miles],” “with adequate connectivity to Mexico that contain a sufficient native prey base and available surface water, have suitable vegetative cover and rugged topography to provide sites for resting, are below 2,000 m (6,562 feet (ft)), and have minimal human impact,²⁷ all features currently found in the Patagonia Mountains. Additional essential criteria for selection was that the critical habitat areas have “minimal to no human population density, no major roads, or no stable nighttime lighting over any 1- km²(0.4-mi²) area,” likewise descriptive of the Patagonia Mountains. The Service stressed that habitat connectivity is crucial, stating that “connectivity between expansive open 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. . . .”²⁸

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.”²⁹ Mining and the increased human disturbance that accompanies a mining project “may render an area unsuitable for jaguars.”³⁰ Due to these impacts, the Service concluded that “[f]uture projects should avoid (to the maximum extent possible) areas identified as meeting the definition of critical habitat for jaguars, and if unavoidable, should be constructed or carried out to minimize habitat effects.”³¹

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 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) Mountains. In 2010 and 2011, Sky Island Alliance documented two different jaguars 40 miles south of the Patagonia Mountains. In 2016 two jaguars were recorded by trail cameras, one in the Santa Rita Mountains approximately 20 miles north of the Patagonias, and one in the Huachuca Mountains approximately 40 miles east.

That jaguars can travel between the sky islands mountains is evidenced by the fact that El Jefe, the jaguar photographed in the Santa Rita Mountains in 2016, had been previously photographed in the Whetstone Mountains, 30 miles from Patagonia, and the jaguar photographed in the Huachuca Mountains in 2016 was subsequently killed in Mexico in 2018. Thus, the Patagonia Mountain area is important at a regional level for habitat connectivity, movement corridors, and potential territories to be established completely or in part in the

²⁷ Id. at 12583.

²⁸ Id. at 12607.

²⁹ Id. at 12588.

³⁰ Id. at 12573.

³¹ Id. at 12617.

Patagonias.

The POO contains misunderstandings about the jaguar and its habitat, stating that

“There are no current or historical records of Jaguars occurring within the Project Area. Thus, any future occurrences of jaguars within the Project Area would be highly unlikely and would be limited to an occasional transient individual if such an occurrence were to occur. Disturbances to an individual jaguar probably would not displace it from habitats that are key to its survival, since habitat for this species is marginal at best within the Project Area and other better quality or equally suitable habitats are available elsewhere.”

The above extract makes unsubstantiated statements based on faulty logic and faulty scientific understanding as follows:

- 1) Lack of historic documentation has no bearing on whether or not this is jaguar habitat, or whether or not a jaguar would be likely to use it now or in the future. Jaguars are secretive, cryptic animals, and historical records in the days before trail cameras and denser human populations are by nature spotty and inadequate for identifying whether jaguars are likely to use a particular area of habitat. Indeed, reviews have noted the scanty historical record that makes it difficult to determine the likely historic range of US jaguars³². And even if there had been comprehensive surveys in the past that demonstrated absolutely that jaguars had never used this particular piece of habitat, that in no way proves that they would not use it in future. Indeed, the designation of this habitat as critical habitat means that jaguar experts with more knowledge than the authors of the POO concluded that it is essential habitat. Thus, when the POO says, “Thus, any future occurrences... would be highly unlikely,” in which the “thus” refers to the lack of present or historical records, this statement misinterprets the import of the historical record.
- 2) The statement that future occurrences within the Project Area would be “limited to an occasional transient individual” has no basis in evidence or logic. Again, there is no reason why lack of current or historical records precludes a jaguar from using this habitat as part of its home range in the future.
- 3) The assertion that “disturbances to an individual jaguar probably would not displace it from habitat that are key to its survival” is wishful thinking based on zero evidence. In fact, the contrary is more likely. Wildlife like jaguars are well known to avoid human activity, including noise³³, which makes displacement of a hypothetical jaguar by the project likely.
- 4) The assertion that this habitat would not be “key to its survival” is again supposition presented as logic. The assertion that this habitat is marginal and that “other better quality or equally suitable habitats are available elsewhere” misunderstands basic concepts of population biology by presenting as fact the dubious idea that habitat is fungible and there is no cost to an animal relocating, when many studies have demonstrated that there are significant fitness costs to animals that are forced to relocate—mortality rates have consistently been found higher for

32 Brown, DE and C. A. López González, 2002. *Borderland Jaguars*, pp. 32-42

33 Frid, A. and L. Dill. 2001. “Human-caused Disturbance Stimuli and a Form of Predation Risk.” *Conservation Ecology* 6(1): 11.

dispersing individuals than resident ones in a multitude of species, including ocelots.³⁴

An additional faulty logic train is found in the POO's assertion that "In addition, there is little difference between habitats in the eastern and western portions of the Project Area, yet the western half of the Project Area is designated as critical habitat, which presumably provides the primary constituent elements for jaguar." The applicant appears to be arguing that because the applicant perceives (where is the data and analysis?) there to be no difference between the eastern and western portions of the project, and because the western portion was designated as critical habitat and the eastern portion not, that therefore the western portion should not have been designated either and that therefore it doesn't deserve protection. Aside from the dubious implication that the applicant is better able to judge the appropriateness of suitable habitat than the US Fish and Wildlife experts who designated the critical habitat, the facts as presented by the applicant could as easily be used to justify the reverse argument, namely that if the eastern and western portions are equivalent habitat, and the western is designated as critical habitat, then the eastern should also be treated as critical habitat. In either case, the project would encroach on designated critical habitat.

We analyzed in detail the above excerpts from the POO to demonstrate the general case that the POO presents supposition as evidence, draws unsubstantiated conclusions not based on the evidence put forward, and engages in wishful thinking to wave away the need for a meaningful NEPA analysis of the effects of this project. The Forest Service will be remiss if it fails to conduct a meaningful analysis of the effects based on assertions by the applicant that masquerade as science.

In summary and refutation of the jaguar arguments in the POO, first, lack of recent documentation does not mean that jaguars do not use the Patagonia Mountains—it is difficult to prove absence. Second, even if jaguars are not currently present in the Patagonias, this doesn't mean that they might not use the habitat in future if it is not degraded or if disturbance does not keep them away. Third, the designation of critical habitat means that the USFWS believes this habitat is "essential for the conservation of the species," meaning that, by definition, this section of the Patagonia Mountains is essential for the species. In turn, the designation requires that Federal agencies must "ensure that actions they plan to undertake, fund, or authorize do not destroy or adversely modify that habitat"³⁵ in the Patagonia Mountains. Fourth, the POO mischaracterizes US jaguars as "transient" individuals when several are known to have resided in the US for years. For example, El Jefe, a jaguar resided primarily in the Santa Ritas, part of the same critical habitat unit as the Patagonias, from at least 2011 to 2016. It is possible that he could have visited the Patagonias during this period. We note the same scientifically incorrect assertions in past POOs for similar projects, notably the 2019 POO for the Sunnyside Project³⁶.

Sonoran tiger salamander. This endangered species occurs roughly one mile from the project area where it could possibly be affected by spills of water containing toxic chemicals (see section

³⁴ Haines, A.M., M.E. Tewes, and L.L. Laack. 2005. "Survival and Sources of Mortality in Ocelots." *Journal of Wildlife Management* 69:255-263. Also, Bonnet, X, G. Naulleau, and R. Shine. 1999. *Biological Conservation* 89(1):39-50.

³⁵ USFWS 2019. Critical Habitat. <https://www.fws.gov/endangered/what-we-do/critical-habitats.html>. Accessed Sept. 27, 2019.

³⁶ Arizona Standard, LLC. 2019. Plan of Operations: Sunnyside Exploratory Drilling Project, Santa Cruz County, Arizona. E.g. p. 22.

on Water Safety, below). Hence, this project should be analyzed to verify whether the topography and hydrology of the area makes it possible that a spill could reach the salamander, and, if so, whether sufficient measures will be in place to prevent this.

Road safety. As described above, possible threats to road safety should be considered an extraordinary circumstance. The POO does describe some road safety measures, namely signs warning of heavy equipment, temporary fences partitioning drill sites from traffic lanes, human spotters to direct traffic when heavy equipment is in use, and roads closures. Nonetheless, given the extreme importance of human safety and the numbers of people who will have to share the roads with heavy equipment, a safety analysis should be done that elicits additional information from the applicant and evaluates how that information bears on human safety. For example, how many trips will happen daily or weekly for equipment haulers, water supply, and workers? What safety measures will be in place to ensure that safe speeds are maintained, speeds that likely should be below posted speed limits for normal traffic? Will heavy equipment travelling on the road be preceded by escort vehicles? How will traffic affect the local residents and visitors who use these roads? And how are road closures likely to affect the community, including lost access to recreation?

The roads in question get frequent use by residents, Border Patrol, ranchers, recreationists, and tourists, including Duquesne Road, Harshaw Road, FR 61, and FRs 58/49. Local residents of Washington Camp, Duquesne, Lochiel, and Mowry drive FR 61 frequently to and from Nogales, Rio Rico, etc. FR 61 is a particular safety concern because it winds through mountainous terrain where, in many places, it narrows to only one lane with sheer drop-offs of hundreds of feet on one side and boulder-strewn mountainsides on the other.

Full and part time residents of the area number around 52. People who use these roads frequently include:

- School children. The western end of FR 61 passes through ranching and residential areas and, near the intersection with Hwy 82, passes the Little Red Schoolhouse. Children, teachers, staff, parents use, park on, and cross the road there.
- Border Patrol, daily drive FRs 58/49 and 61, often at high speed. Their vehicles include ATVs and trucks with trailers. They may ride horses.
- Ranchers often haul cattle and hay in large trucks.
- Recreationists living in and visiting the area include hikers, birders, cyclists, ATV riders, campers, hunters, and horseback riders. Organized bicycle rides (4 per year), groups of ATV, motorcycle, and 4x4 drivers tour the area.

We note that in the POO there is no mention of traffic coming from Mowry/Patagonia on FR58/49. This should be rectified in the final analysis.

Water safety. Exploratory drilling involves significant quantities of water to cool drilling equipment inside the borehole. Contaminated wastewater is typically collected in open pits near the drill site and allowed to evaporate, or trucked out, as is proposed for this project. But these pits are not immune to overflows. The summer monsoon season that provides drenching rainfalls to the Patagonia Mountains can result in pit and mine overflows that contaminate surface waters. An overflow caused by intense summer rains was observed in 2011 when a sump dug by

Boart Longyear, a contractor of Arizona Minerals, overflowed, spilling drilling fluid down a hill and toward Harshaw Creek. Intense rains in September, 2014 caused acid mine drainage to flow from the Lead Queen Mine.

In addition to adverse effects for surface waters, exploratory drilling can contaminate, impede, or redirect the flow of groundwater. Notably, prior drilling in nearby Humboldt Canyon resulted in an artificial artesian well at one of the borehole sites. The interaction between surface and ground waters in this region is complex, water quality is already significantly compromised, and downstream water users depend on a reliable water supply from these mountains. We refer you to the August 12, 2020 letter from the Town of Patagonia to the Coronado National Forest requesting a groundwater study.

The POO (p. 7) acknowledges that ground water may be encountered. A prior POO by Regal Resources for another project in the Patagonia Mountains acknowledged that “water is expected to be encountered in drilling at depths in excess of 1,000 feet” during drilling operations³⁷ and noted that: “Previous exploration drilling encountered water flow at the depths contemplated.”³⁸ In the San Antonio POO, the applicant is asked to “Describe proposed surface water and groundwater quality monitoring, if required, to demonstrate compliance with federal or state water quality standards.” Despite the possibility of encountering groundwater, the POO fails to describe provisions for ground water monitoring. Moreover, despite this potential significant impact, apparently no baseline analysis of groundwater has been conducted. If so, this failure violates NEPA’s requirement to “succinctly describe the environment of the area(s) to be affected,”³⁹ which is typically done in part by accurately ascertaining the current condition, i.e., the baseline condition, of the affected environment. Various environmental analyses have been found inadequate in court because of failing to establish an environmental baseline.⁴⁰

For these reasons, further study of the impacts of borehole drilling on the regional water supply, both ground and surface waters, is essential for the Forest Service to make an informed decision about the proposed Project.⁴¹ The potential for harm to human health from ground water contamination makes this issue an extraordinary circumstance.

Other actions in the area that could affect resources.

We note that other exploratory drilling projects and/or other mining activities have been occurring, are planned to occur, or are likely to occur nearby, including in known western yellow-billed cuckoo habitat and jaguar critical habitat, and further drilling projects by the San Antonio Project proponent are likely, given that the company and others have filed numerous mining claims in the Patagonia Mountains. Currently, Barksdale Resources Corporation (formerly Regal Resources) holds claims to over 12,000 acres of unpatented public lands in the Patagonias; South32, formerly Arizona Mining Incorporated, claims over 26,000

³⁷ Plan of Operations at 6.

³⁸ Plan of Operations at 6.

³⁹ 40 C.F.R. § 1502.15.

⁴⁰ See Summary in *Oregon Nat. Desert Ass’n v. Jewell*, 840 F.3d 562, 568 (9th Cir. 2016). Pp. 5-6.

⁴¹ See, e.g., *Idaho Conservation League v. U.S. Forest Serv.*, 2012 WL 3758161, *14–17 (D. Idaho Aug. 29, 2012)

acres of public lands in the Patagonias; and Rio Tinto has over 20,000 acres in the San Rafael Valley, Canelo Hills, and nearby areas to the Town of Patagonia.

The Coronado National Forest is reviewing another proposal from Barksdale Resources in early 2021 for exploratory drilling to assess mineral resources on potentially thousands of acres in the Patagonia Mountains. South32 and its predecessors have drilled at least 100 exploratory boreholes in the Patagonia Mountains in the last 10 years. The Project and the other proposed exploratory drilling projects in the Patagonia Mountains are the first step in the development of massive surface mines in this mountain range. We urge the Forest Service to consider the cumulative impacts of open pit mining on these ecosystems, species, and resources before it approves any proposed drilling project here. The full scope of these impacts should be understood by the agency, the public, and the mining companies before any exploration activities move forward.

V. Conclusion

For the above reasons, the Forest Service must not approve the project under a categorical exclusion to NEPA review. Further environmental review of this project is necessary because extraordinary circumstances exist or are likely to exist. In the event of uncertainty about whether or not they exist, the Forest Service is precluded from using a categorical exclusion.

Furthermore, the Forest Service must engage in meaningful consultation with the Fish and Wildlife Service regarding potential impacts to threatened and endangered species before approving this project.

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

Sincerely,
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