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March 20, 2017

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RE: City of Sierra Vista and Cochise County Joint Comments on U.S. Fish and Wildlife Service. 2016. Jaguar Draft Recovery Plan (*Panthera onca*) U.S. Fish and Wildlife Service, Southwest Region, Albuquerque, New Mexico

Mr. Spangle:

Thank you for the opportunity to submit comments on the Jaguar Draft Recovery Plan (*Panthera onca*) prepared by U.S. Fish and Wildlife Service, Southwest Region, Albuquerque, New Mexico, issued in December 2016. The following information was prepared on behalf of the City of Sierra Vista and Cochise County, local governmental agencies, with standing due to being geographically located in the southwestern USA where this Recovery Plan would be implemented. As such, we request our input be utilized in full. Because this document corrects errors in the Draft Recovery Plan, we request this document be used as part of as the “best available science” going forward.

Recommendation:

First, for reasons detailed below, we request that USFWS withdraw the proposed Draft Recovery Plan because implementation would do more harm than good to jaguars and to the Endangered Species Act of 1973, 16 U.S.C. §§ 1531-44 (ESA).

Overall Process Flaws:

1. Speculation

This Draft Recovery Plan is based on too little data and too much speculation. As explained in detail below, the computer models used by the Recovery Team to map jaguar habitat and determine recovery actions are incorrect. The first item of action for USFWS should be determining how to collect the necessary scientifically valid data for an accurate computer model of jaguar habitat potential in the USA.

Scientists agree that there is no breeding population of jaguars in the USA (FR Page 50220). Before attempts are made to enhance habitat in southern Arizona and southern New Mexico that U.S. Fish and Wildlife Service (USFWS) biologists admit is marginal (FR Page 50218), we need to determine what the limiting factors are for jaguars in the USA.

We highly recommend the USFWS take a step back, discard this Draft Recovery Plan due to speculation, and create a plan to gather the necessary data to determine whether the USA truly includes habitat that is meaningful for jaguar conservation.

2. Lack of best scientific and commercial data available

We recommend USFWS create a fact-based set of data, utilizing only the best available science, which is primarily twenty-first century information. As required by *Bennett v. Spear*, 520 U.S. 152, 176 (1997), USFWS must "use the best scientific and commercial data available" to ensure that the ESA is not implemented haphazardly, based on speculation or surmise. USFWS did not follow *Bennett v. Spear* when it used third hand stories of jaguar kills, locations of jaguars that were brought to the USA from other countries for trophy hunts, scent baited jaguar locations and other inaccurate data in its GIS habitat preference maps.

3. Lack of Quality Information and Lack of Objectivity

As required by the USFWS Information Quality Guidelines and Peer Review (Revised June 2012), USFWS must be objective.

Objectivity is defined within the agency's guidelines by "*whether the disseminated information is presented accurately, clearly, and completely, and in an unbiased manner. Objectivity involves two distinct elements: presentation and substance.*"

- a) *Information disseminated by the FWS will be presented accurately, clearly, and completely.*
- b) *Information disseminated by the FWS will be treated in an unbiased fashion. In a scientific, financial, or statistical context, we will analyze the original and supporting data and develop our results using sound statistical and research methods to ensure, to the best of our knowledge that our results are not subject to bias. Where a potential for bias is identified, the FWS will address it.*
- c) *The limitations of the information disseminated by FWS will be explicitly stated.”*

Our concerns regarding lack of science and agency biases are discussed in detail below.

4. Lack of the Necessary Scientific Report Writing Processes and Procedures

Critical to creation of a scientifically valid recovery plan is a process for evaluating data. Computers have made cutting and pasting so easy that USFWS biologists no longer read the original sources of information. Instead, they search a virtual library. This process entails entering a word or phrase into a search engine, finding results and cutting and pasting those results into documents.

The cut and paste methodology is fast and easy. However, as detailed below, USFWS biologists do not read above and below the cut and paste enough to evaluate the veracity of the data. The original author may have qualified their statement, yet that qualitative information is lost in the USFWF writing process.

As an example, the Grand Canyon jaguar record USFWS repeatedly uses has a highly questionable, unverifiable origin. Lange (1960) reports “*A memorandum of H. C. Lockett, in a letter of Lyndon L. Hargrave to E. A. Goldman, dated July 14, 1943, refers to a female and her two cubs being killed in the Grand Canyon, probably in the period, 1885-1890.*”

Lange provided no citation pointing to where the letter can be located to verify the information he reported. The report is therefore unverifiable and unreliable. Householder (1966) states these alleged jaguars were killed in 1890 but fails to cite his source.

The second part of the process failure is called cherry picking. USFWS chooses data to support their suppositions yet fails to cite information that rebuts their opinions. USFWS decisions are based on a subset of data that reaffirms their original positions.

As an example, completely lacking from the Draft Recovery Plan is any reference to Dr. Alan Rabinowitz 2012 “*Review of USFWS Proposed Action to Designate Critical Habitat for the Jaguar in the United States.*”

As context, per information detailed at <https://www.panthera.org/people/alan-rabinowitz-phd>

“Dr. Alan Rabinowitz is one of the world’s leading big cat experts, and has been called ‘The Indiana Jones of Wildlife Conservation’ by TIME Magazine. Dr. Rabinowitz graduated from the University of Tennessee in 1981 with an M.S. in Zoology and a Ph.D. in Wildlife Ecology and is currently the CEO of Panthera. Prior to co-founding Panthera with the organization’s Chairman, Dr. Thomas S. Kaplan, Rabinowitz served as the Executive Director of the Science and Exploration Division for the Wildlife Conservation Society for almost 30 years.

Dr. Rabinowitz has traveled the world on behalf of wildlife conservation and over the years has studied jaguars, clouded leopards, Asiatic leopards, tigers, Sumatran rhinos, bears, leopard cats, raccoons, and civets. His work in Belize resulted in the world's first jaguar sanctuary; his work in Taiwan resulted in the establishment of this country's largest protected area and last piece of intact lowland forest; his work in Thailand generated the first field research on Indochinese tigers, Asiatic leopards, and leopard cats, in what was to become the region's first World Heritage Site; and his work in Myanmar has led to the creation of five new protected areas, including the country's first marine national park, first and largest Himalayan national park, and the world’s largest tiger reserve in the Hukaung Valley. In northern Myanmar, Dr. Rabinowitz also discovered a new large mammal species and the world’s most primitive deer, the leaf deer.

*Dr. Rabinowitz has authored over one hundred scientific and popular articles and eight books, including *Jaguar: One Man’s Struggle to Establish the First Jaguar Preserve*(1986/ 2000), *Chasing the Dragon’s Tail: The Struggle to Save Thailand’s Wild Cats*(1991/ 2002), *Beyond the Last Village: A Journey of Discovery in Asia’s Forbidden Wilderness* (2001), *Life in the Valley of Death: The Fight to Save Tigers in a Land of Guns, Gold, and Greed* (2008), and most recently *An Indomitable Beast: The Remarkable Journey of the Jaguar* (2014), and a children’s book entitled *A Boy and a Jaguar* (2014).*

Dr. Rabinowitz has dedicated his life to surveying the world’s last wild places, with the goal of preserving wild habitats and securing homes, on a large scale,

for some of the world's most endangered mammals. His focus on cats is based on conserving top predators, which affect entire ecosystems. By saving cats, the impacts are far reaching and conserve vast landscapes upon which many species depend, including humans.

One of Dr. Rabinowitz's greatest achievements was the conceptualization and implementation of the Jaguar Corridor - a series of biological and genetic corridors for was the conceptualization and implementation of the Jaguar Corridor - a series of biological and genetic corridors for jaguars across their entire range from Mexico to Argentina.”

The USFWS biologists ignored a considerable amount of information provided to them by Dr. Alan Rabinowitz, the foremost jaguar expert in the world, because it was not aligned with their personal desire to work on a charismatic species such as the jaguar and their person philosophy that the federal government should control more land, more water and people in the “hope” that it will result in more habitat for jaguars or at least for some wildlife species in general.

Though USFWS quotes some information from a subset of Dr. Rabinowitz’s work, they repeatedly ignore other relevant information presented by him.

As an example, USFWS cites Rabinowitz et al (2010) in relation to jaguar corridors, yet they omit his 2010 map of those jaguar corridors (Figure 1 below) because the corridors are all south of the US border.

US dollars were spent on funding the Rabinowitz (2010) study. However, only a subset of data from that study was reported by USFWS in the Draft Recovery Plan. As discussed in detail below, the fact is that there is not enough data about jaguar use of land in the USA. The truth is simple - we cannot map corridors here in Arizona and New Mexico because we have too few data points.

If we are going to continue to expend US tax dollars on jaguar management, it is critical that we spend the money on projects that will truly benefit the jaguar.

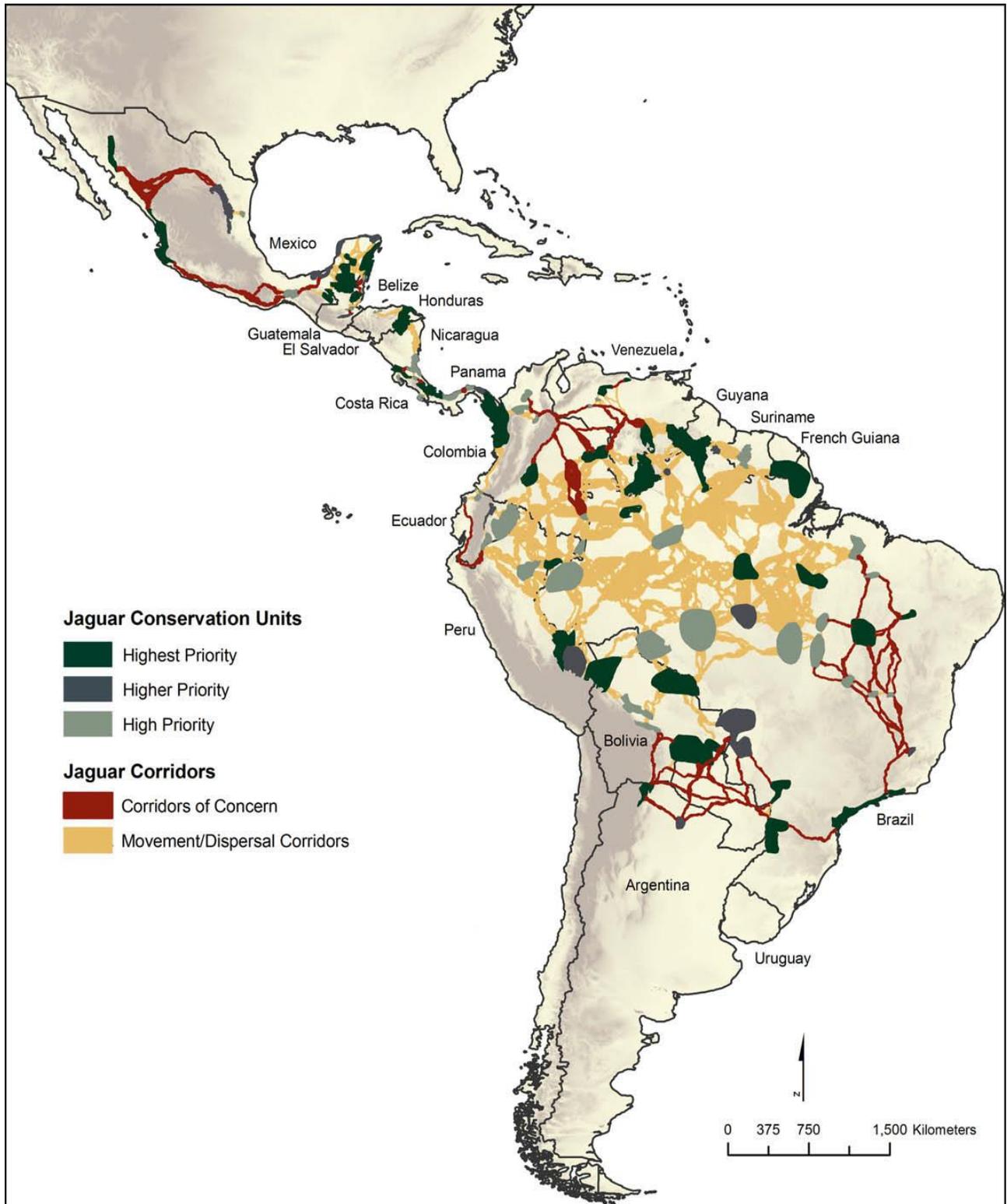


Figure 1. Jaguar Corridor Map from Rabinowitz & Zeller (2010). Note that all Corridors are South of the USA – Mexico International Border

Recommendations:

First – we recommend that the USFWS continue to fund the use of wildlife cameras to obtain scientific data regarding where jaguars are entering the USA to determine whether there are jaguar travel corridors north of the International Border and if so, where those corridors occur and what can be done to maintain and enhance those corridors. This wildlife camera information should be used to create the data base for determining whether land within the United States can play a role in jaguar conservation.

Care needs to be taken to assure the data is collected in an unbiased manner. Bait should NOT be used to influence jaguar behavior. As discussed below, the fact that Macho B were lured to cameras with scent makes that data useless in determining jaguar habitat preferences.

Second – encourage our neighbors to the south, including Mexico, Central and South America where breeding populations of jaguars exist, to continue efforts to conserve and study jaguars. There areas south of our International Border area where the most good for the most jaguars can occur.

Since 2005, USFWS has helped secure financial support for on-the-ground jaguar recovery projects in Mexico, Belize, Brazil and Argentina (USFWS News Release, January 13, 2010). Instead of proposing to spend over six hundred million dollars on jaguar “recovery” here in the United States we recommend USFWS work to assure money is spent where it will truly conserve jaguars.

The following is a synopsis of some of the more egregious errors in the Draft Recovery Plan. However, due to the length of the Draft Recovery Plan, not all errors, omissions, misstatements of fact and other problems are addressed herein.

All past comments from the City of Sierra Vista and/or Cochise County to USFWS regarding the jaguar are herein incorporated by reference.

DETAILED COMMENTS

Recovery Plan Page ix:

“In 2014, six critical habitat units, as defined under the ESA, were designated for the jaguar in the U.S., which encompass approximately 309,263 hectares (764,207 acres) in Pima, Santa Cruz, and Cochise Counties, Arizona, and Hidalgo County, New Mexico (USFWS 2014).”

Comment:

We agree with the 2006 USFWS critical habitat finding: *“In summary, we do not find any habitats within the jurisdiction of the United States that meet the definition of critical habitat, i.e., habitats within the United States that contain the features essential for the conservation of the species and which may require special management considerations and protection, or areas outside of the geographical area occupied by the species that are considered essential to its conservation. **Because there are no areas or features essential to the conservation of the jaguar in the United States that meet the definition of critical habitat, designation of critical habitat for the jaguar is not beneficial** (emphasis added). We, therefore, determine that critical habitat for the jaguar is not prudent (Federal Register /Vol. 71, No. 133 /Wednesday, July 12, 2006 /Notices 39335).”*

Nothing has changed to make this 2006 determination any less factual. Land essential to the species is located south of the International Border between the United States and Mexico.

Less than 1 percent of the jaguar habitat in the world is in the United States (Rabinowitz 2012 and AGFD 2012 Comments on Jaguar Critical Habitat). As such, the United States is not essential.

We request USFWS use more of Dr. Rabinowitz work. USFWS cites Dr. Rabinowitz dozens of times throughout the Draft Recovery Plan, however, they completely ignore his paper titled *“Review of USFWS Proposed Action to Designate Critical Habitat for the Jaguar in the United States (2012).”*

Rabinowitz (2006) identified the following landscape features as those that most affect jaguar presence and movement rangewide: (1) habitat type [vegetation and topography], (2) percent of tree and shrub cover, (3) elevation, (4) human densities, (5) human settlements and (6) roads. He also commented that *“We know what jaguars need: occasional access to water, some degree of forest cover, and prey species that*

can range from peccaries to armadillos. We also know that jaguars can live close to people, but they generally avoid large open areas and sites of high human density."

In relation to the Critical Habitat discussed in detail on Page ix and throughout the Draft Recovery Plan, Dr. Rabinowitz (2012) states "Not only are substantive data lacking to prove justification for this action, but **the assumptions and speculations put forth in this document are**, in my opinion, often **incorrect and not in the best interests of either the jaguar or the people of the United States** (emphasis added). Furthermore, the history of this current action has been controversial, not because of new, relevant data becoming available but due to litigation by NGO's who appear to have their own agenda. The USFWS should carefully consider why it is pursuing this line of action and how credible this proposed action really is."

Dr. Rabinowitz clearly, in no uncertain terms, states that "**USFWS IS NOT ACTING IN THE BEST INTEREST OF THE JAGUAR**" (emphasis added) by proposing critical habitat for the species. This fact cannot be understated. It is a very sad commentary on a federal agency entrusted to implement the ESA. It worries us more than words can say.

As readers of these comments will notice, the theme of the authors of the Draft Recovery Plan cherry picking certain data while deliberately not citing other data is common throughout the document, thus a reoccurring comment herein.

Draft Recovery Plan Page ix - x:

"In 2014, six critical habitat units, as defined under the ESA, were designated for the jaguar in the U.S., which encompass approximately 309,263 hectares (764,207 acres) in Pima, Santa Cruz, and Cochise Counties, Arizona, and Hidalgo County, New Mexico (USFWS 2014). There are seven primary constituent elements of critical habitat that make up the habitat features included in the physical and biological feature that meets the physiological, behavioral, and ecological needs of the species. This physical and biological feature, including these seven elements, is:

Expansive open spaces in the southwestern U.S. of at least 100 km² (38.6 mi²) in size, which:

- 1) Provide connectivity to Mexico;*
- 2) Contain adequate levels of native prey species, including deer and javelina, as well as medium-sized prey such as coatis, skunks, raccoons, or jackrabbits;*
- 3) Include surface water sources available within 20 km (12.4 mi) of each other;*

- 4) Contain from greater than 1 to 50 percent canopy cover within Madrean evergreen woodland, generally recognized by a mixture of oak (*Quercus* spp.), juniper (*Juniperus* spp.), and pine (*Pinus* spp.) trees, on the landscape, or semidesert grassland vegetation communities, usually characterized by *Pleuraphis mutica* (tobosagrass) or *Bouteloua eriopoda* (black grama) along with other grasses;
- 5) Are characterized by intermediately, moderately, or highly rugged terrain;
- 6) Are below 2,000 meters (6,562 feet) in elevation; and
- 7) Are characterized by minimal to no human population density, no major roads, or no stable nighttime lighting over any 1-km² (0.4-mi²) area.”

Comment:

As eloquently stated by Dr. Rabinowitz (2012) in USFWS jaguar critical habitat “*Having been one of the original architects of this research, I state now with the utmost confidence that we are doing well to save jaguars throughout their existing range and that **there is no habitat in the United States at this time that is critical to the survival of the jaguar as a species** (emphasis added).*”

Dr. Rabinowitz goes on to say: “*This is little more than smoke and mirrors. **What is being put forth is not true** (emphasis added). The report continually uses assumption and speculation as fact, then uses those “facts” to justify defining critical habitat in the United States for a species which simply does not live in the United States and has not resided there as a population for at least half a century. The jaguar south of the border is doing quite well in many areas and has been shown to have genetic connectivity through designated landscape corridors. **There is NOTHING about the lands in the SW U.S. that is critical to the continued survival of the jaguar as a species** (emphasis added).*”

The Recovery Plan fails to answer the most basic tenant of science:

- What are the limiting factors for the jaguar?
- Can the USA provide those items?

Arizona Game and Fish Department (AGFD) stated in their 2012 letter opposing critical habitat that: “*habitat “occupied” by jaguars in Arizona and New Mexico does not meet the definition of critical habitat as described by the ESA and should therefore not be designated. “The United States “represents less than 1% of the entire (rangewide) habitat for the species. As is acknowledged in the notice, recovery of jaguar is entirely reliant on conservation action in the 99+% of its habitat found south of the international*

border. **The less than 1% parameter for potential jaguar habitat in the U.S. does not and cannot contribute substantially to recovery of the species** (emphasis added). ...”

“Further study documenting the role Arizona jaguars play in the overall population is needed before any habitat in Arizona should be considered as potential critical habitat. At this time, **it is not biologically sound or justifiable to designate less than 1% of habitat that accounts for less than 0.003 to 0.01% of the population** (emphasis added). Moreover, **Arizona and New Mexico have never been documented to hold a breeding pair of jaguars** (emphasis added). There is no evidence that jaguars in Arizona and New Mexico contribute offspring to the rangewide population in a manner that outweighs mortality in the area of dispersal or that they provide some other biological benefit (e.g. novel genetic traits) for the population. Research should be conducted to examine if the jaguars observed in Arizona and New Mexico represent a dispersal sink, where individual jaguars and their genetics are lost to the population, or if they are in fact still interacting with the nearest jaguar population (roughly 140 miles to the south in Mexico).”

We agree with the analysis provided by both Dr. Rabinowitz and AGFD. The United States is not critical habitat for the jaguar. The USFWS should work with our State Game and Fish biologists and utilize the AGFD Jaguar Conservation Assessment for Arizona, New Mexico and Northern Mexico (2011). AGFD has diligently led jaguar conservation efforts in AZ-NM since 1996.

The USFWS should also work with Dr. Alan Rabinowitz, the leading world authority on jaguar conservation. Dr. Rabinowitz and AGFD both clearly oppose critical habitat for the jaguar in the United States, as documented in their 2012 proposed jaguar critical habitat comments available at www.regulations.gov under Docket No. FWS–R2– ES– 2012–0042.

USFWS has access to the most complete assessment of jaguar conservation needs and the arguments, pro and con, regarding the population status and critical habitat designation controversy surrounding jaguars within the borderlands region. The best available science is found at AGFD, NMDGF and Dr. Rabinowitz’s studies and comments on the subject.

“The more open, dry habitat of the southwestern U.S. has been characterized as **marginal in terms of water, cover, and prey** densities (*emphasis added*) (Rabinowitz 1999).”

The authors of the Recovery Plan state that critical habitat only included areas with “adequate levels of native prey species, including deer and javelina, as well as medium-sized prey such as coatis, skunks, raccoons, or jackrabbits.”

Comment:

However, as Dr. Rabinowitz (2012) notes, “*There has been no detailed prey occurrence or density study cited for the areas under consideration despite recognition that adequate prey is a major factor in assessing critical habitat. The report assumes that optimal habitat for jaguars in the United States would be the high mountain or rugged areas, simply because that is where most sightings have been reported. In fact, it is the lowlands that jaguars and jaguar prey prefer, but they often become relegated to more rugged regions when lowland areas have been taken over or destroyed. Upland areas usually have lower prey densities and lower carrying capacities for large cats.*”

Draft Recovery Plan Page xi

“3) Assess and maintain or improve the status of native prey populations.”

Comment:

One must ask why no studies of the prey base in southern Arizona and New Mexico are cited in the Recovery Plan. How do the authors know whether or not the prey populations need to be “*maintained or improved*” if they have no data? How do they know if the prey populations can be improved, since they have not cited any literature or science documenting the existing prey?

One should also ask why the Recovery Plan does not address the reintroduction of the Mexican wolf on the exact same acres of land in southern Arizona and southern New Mexico and how that will affect jaguars and their prey. Mexican wolves eat the same prey as jaguars. Is there enough wild prey for either one or both?

Will the jaguar eat the endangered Sonoran pronghorn? The draft recovery plan for the pronghorn proposes spending more than twenty-three million dollars on pronghorn

recovery in southern Arizona within an area that overlaps the proposed jaguar recovery area.

The existing pronghorn population is already in decline in the Sonoran Desert. Kim Mulhern, former Chief of the Environmental and Natural Resources Division and Environmental Officer at Fort Huachuca (retired), indicated that *“the Arizona Game and Fish Department approached Fort Huachuca about introducing additional pronghorn antelope to supplement the declining population in that portion of Cochise County. The environmental division responded by purchasing and lending a radio collar to AZGFD for the purpose of tracking introduced pronghorn.”*

The Draft Recovery Plan fails to mention that the endangered Sonoran pronghorn could become prey for the predatory jaguar in southern Arizona and Northern Mexico. What will happen to the financial investment in Sonoran pronghorn recovery? How will the proposed Jaguar Recovery Plan affect pronghorn recovery?

Draft Recovery Plan Page ix

*“Contain from greater than 1 to 50 percent canopy cover within Madrean evergreen woodland, generally recognized by a mixture of oak (*Quercus* spp.), juniper (*Juniperus* spp.), and pine (*Pinus* spp.) trees, on the landscape, or semidesert grassland vegetation communities, usually characterized by *Pleuraphis mutica* (tobosagrass) or *Bouteloua eriopoda* (black grama) along with other grasses”*

Comment:

The USFWS ignored Rabinowitz and Arizona Game and Fish Department (AGFD) biologists and had to make 13 iterations of the jaguar habitat model and reduce vegetation to one percent to make the model fit their proposed critical habitat maps.

As explained by USFWS biologist Scott Richardson, at the Public Information Meeting on the Jaguar on July 30th, 2013, USFWS created polygons **without** the necessary requirements for the species so they could connect areas where their model could be tailored to fit parameters for jaguars, and then linked to Mexico. The USFWS had to reduce the percentage of cover to one percent to get polygons large enough to connect to each other. One percent is meaningless. The agency manipulated data to create imaginary travel corridors that they cannot prove exist on the ground.

Imagine your own back yard - what does it look like when there is only 1% vegetative canopy cover? In Arizona or New Mexico, it could be a gravel patio with a palm tree at the edge. In no way would the patio qualify as “critical habitat” essential to the survival of the jaguar. What percent vegetative canopy would you seek if you were trying to stay out of view, find shade from searing hot sun and find prey? It would be much more than 1% vegetative canopy.

The reason USFWS chose 1% was to connect the over 764,000 acres of arid lands in the southwestern USA that they wanted to label “critical habitat”. There is no other reason for using 1% canopy cover – the term is meaningless. Zero percent cover would be just as logical if not more logical.

Draft Recovery Plan Page xiii

*“The USFWS **will consider** (emphasis added) removing the jaguar from the Federal List of Endangered and Threatened Wildlife when all of the following conditions are met”*

Comment:

The ESA calls for preparation of recovery plans for threatened and endangered species likely to benefit from the effort, and authorizes the Secretary of the Interior to appoint recovery teams to prepare the plans (U.S. Congress 1988). Per section 4(f)(1) of the ESA, recovery plans must, to the maximum extent practicable, describe site-specific management actions as may be necessary to achieve the plan’s goals, incorporate **objective and measurable delisting criteria** (emphasis added), and estimate the time and cost required for recovery.

The Draft Recovery Plan does not contain objective and measurable delisting criteria. Instead, it states that the agency “**will consider**” removing the jaguar from the list if certain criteria are met. This in and of itself is obviously subjective. There is no guarantee that USFWS will delist the jaguar even if 100% of all delisting criteria are met.

The Recovery Plan needs to state that if certain criteria are met the agency will remove the jaguar from the list, not just “consider” removing the animal from the list.

Draft Recovery Plan Page xiii

*“The USFWS **will consider** (emphasis added) removing the jaguar from the Federal List of Endangered and Threatened Wildlife when all of the following conditions are met.*

... The status of the jaguar changes to Least Concern (LC) and is maintained under the IUCN Red List criteria (as defined by the World Conservation Union, <http://www.iucnredlist.org>) for at least 15 more years”

Comment:

Why is USFWS deferring to the “IUCN” as the authority for determining recovery? This is a nongovernment organization (NGO). USFWS needs to separate recovery criteria from any IUCN wildlife lists and the affiliated politics. USFWS needs to do their own work to determine whether or not an animal qualifies for listing or delisting. Congress did not delegate that authority to IUCN and USFWS cannot delegate that authority to IUCN.

Draft Recovery Plan Page xiv

*“Agency policies and regulations (including transportation), land use regulations, and land owner agreements **in Mexico** (emphasis added) are sufficient”*

Comment:

Why is the USFWS committing the USA government and its taxpayers to keeping the jaguar listed in the USA until **Mexico** has agency policies, regulations, etc. in place? The USFWS has no authority to dictate what Mexico does with its agency policies and regulations. The Draft Recovery Plan is too speculative regarding the delisting of the jaguar.

Draft Recovery Plan Page xv

“Total Estimated Cost of Recovery (in U.S. dollars)

The Implementation Schedule provides the estimated costs of implementing recovery actions for the first five years after the release of the recovery plan. Continual and ongoing costs, as well as the estimated total cost, are based on the projected timeframes to recovery and delisting of the species. Annual cost estimates are as follows:

Year 1 = \$2,349,000

Year 2 = \$12,657,000

Year 3 = \$10,301,000

Year 4 = \$20,135,000

Year 5 = \$10,653,000

The estimated cost to implement this plan for the first 5 years is \$56,093,000. The total cost to implement this plan through the year 2066, the estimated recovery date of the jaguar, is \$605,648,000.”

Comment

USFWS should retract the Draft Recovery Plan for the Jaguar until sufficient verifiable science is available to write a recovery plan.

We agree with Rabinowitz (2012) statement that “**Based on the paucity of data and information that are being used** to reverse prior rulings, due to pressure from specific NGO’s and the court system, I can only believe that **this new proposed rule to declare critical habitat for the jaguar** in the United States is a political exercise that **will** continue to waste US taxpayer funds, take up valuable court time, and **likely be detrimental for other endangered species that are in sore need of attention and funding... . This is not money and time well spent** (emphasis added).”

Draft Recovery Plan Page 2

“Given that the jaguar is an international species with the vast majority of its range outside of the U.S., primary actions to recover the jaguar will occur outside of the U.S.”

Comment

Why would the USFWS propose spending over 600 million dollars to “recover” a species with the vast majority of its habitat outside the US? Don’t we have species here that need recovery?

Draft Recovery Plan Page 2

“The jaguar is classified as “Near Threatened” on the Red List of the IUCN due to a number of factors, including habitat loss and fragmentation of populations across portions of the range (Caso et al. 2008). Current levels of habitat loss indicate the species is trending toward Vulnerable (IUCN category); the jaguar’s status is currently being reevaluated by the IUCN and a new analysis should be available by the end of 2016 (Quigley, pers. comm. 2016).”

Comment:

The USFWS states the jaguar is “endangered” yet the IUCN that USFWS suggests we defer to for delisting only classifies it as “Near Threatened”. The reason the IUCN has a lower level of concern is because they assess the global situation. The USFWS looked at a subset of facts and used speculation to list the jaguar as endangered. Rabinowitz (2012) disagrees with the USFWS on the status of the jaguar, as explained below.

Draft Recovery Plan Page 4

*“On July 25, 1979, the USFWS published a notice stating that, although the jaguar was originally listed as endangered in accordance with the ESCA, when the ESA superseded the ESCA, through an oversight the jaguar (and six other endangered species) remained listed on the List of Endangered Foreign Wildlife, but populations in the U.S. were not protected by the ESA (U.S. Fish and Wildlife Service 1979). The notice asserted that it was always the **intent** (emphasis added) of the USFWS that all populations of jaguars warranted listing as endangered, whether they occurred in the U.S. or in foreign countries. The jaguar’s endangered status in the U.S. was therefore clarified on July 22, 1997 (U.S. Fish and Wildlife Service 1997).”*

Comment

The law does not consider what an agency intended. What matters is what the agency did. We recommend striking the statement and rationalization about “intent” and instead, using facts.

Draft Recovery Plan Page 7

“The probability of long-term survival of the jaguar is considered high in 70% of the currently occupied range (over 6 million km² [2.3 million mi²])”

Comment

The USA is not “occupied”. Only an occasional transient male jaguar makes its way into the USA. The long-term survival of the jaguar requires habitat south of the USA. The most meaningful jaguar conservation is that taken south of the USA.

Draft Recovery Plan Page 7

‘Rabinowitz and Zeller (2010) identified least-cost corridors connecting the 90 JCU’s across the jaguar’s range.’

Comment

What USFWS excluded from the Draft Recovery Plan was the map in Rabinowitz and Zeller (2010) that shows there are no jaguar corridors in the USA (see Figure 1 above). As noted in Rabinowitz (2012) **“The fact that essentially all the wild jaguars in the world roam south of the border, from Mexico to Argentina, is all but ignored” by USFWS** (emphasis added).

Draft Recovery Plan Page 10

“While jaguars have been documented as far north as the Grand Canyon, Arizona, occurrences in the U.S. since 1963 have been limited to south-central Arizona and extreme southwestern New Mexico. Three records of females with cubs have been documented in the U.S. (all in Arizona), the last in 1910 (Lange 1960, Nowak 1975, Brown 1989), and no females have been confirmed in the U.S. since 1963 (Brown and López González 2001, Johnson et al. 2011; note the validity of the 1963 record (a female jaguar killed in the White Mountains of Arizona) has been disputed—see Johnson et al. 2011 for further information). As a result, jaguars in the U.S. are thought to be part of a population, or populations, that occur largely in Mexico.”

Comment:

The Arizona Office of USFWS continues its bad habit of cherry picking information from their digital library.

The problem is that the information that is cut and pasted is taken out of context. The Draft Recovery Plan authors do not read the entire scientific paper. Instead they cut a sentence out that supports a premise. The sentence above or below may rebut the same premise. To further exacerbate the cherry-picked literature problem, USFWS may note the veracity of some data the first time they mention the data, however, they often then continue to use that speculative or unsubstantiated data throughout the document as if it is undisputable fact.

Throughout the Draft Recovery Plan, USFWS cites data as fact with no caveats about the credibility. Instead, USFWS should use the following publication to fact check: "*Literature Review and Classification of Jaguar (*Panthera onca*) Records from Arizona and New Mexico*"

Edited by Cindy Copping, Pima NRCDC March 10, 2017", herein cited as Copping (2017).

As noted by Copping (2017), the Grand Canyon jaguar record has a highly questionable, unverifiable origin. Lange (1960) reports "*A memorandum of H. C. Lockett, in a letter of Lyndon L. Hargrave to E. A. Goldman, dated July 14, 1943, refers to a female and her two cubs being killed in the Grand Canyon, probably in the period, 1885-1890.*"

Lange provided no citation pointing to where the letter can be located to verify the information he reported. The report is therefore unverifiable and unreliable. Householder (1966) states these alleged jaguars were killed in 1890 but fails to cite his source.

Highly respected mammalogist, Dr. Donald Hoffmeister (1986) states "***Supposedly*** (*emphasis*) *a female with two cubs were taken in the Grand Canyon area, and a female and a cub were taken at the head of Chevelon Creek, Coconino County.*" That is all Dr. Hoffmeister said about this record. It is important to note Hoffmeister's choice of a preface-***supposedly***. It is also important to note that Hoffmeister made no citation to source, clearly signaling that this "record" may be a myth that could easily have originated around a campfire. It can be safely inferred that that Hoffmeister was unable to locate the alleged memorandum of H.C. Lockett for verification, and at least we know that a copy of it does not exist in the AZGFD files.

Despite citing Hoffmeister in their records, Brown and Lopez-Gonzales (2000, 2001) omitted this Grand Canyon jaguar from their datasets, which begin only in 1900. Their incomplete examination of data prior to 1900 deprives the reader of the knowledge that

jaguars were extremely rare in Arizona before 1900, and misleads the reader to assume otherwise.

The Lockett memorandum or the Hargrave letter cited by Lange (1960) is not referenced to any repository or citation, so the information is unverifiable. Additionally, Ms. Copping was unable to locate any newspaper article mentioning or announcing this jaguar kill, despite the obvious newsworthiness of the unprecedented appearance of a lactating female jaguar in such a renowned tourist attraction as the Grand Canyon.

Grigione et al. (2007) included the Grand Canyon jaguar account in Table 1, which appears simply to be a combined list of reliable and unreliable jaguar sightings in Arizona and Sonora. Grigione et al. (2007) misrepresents Hoffmeister (1986) in the statement, "*In addition to reports in Arizona and New Mexico Game and Fish records, Hoffmeister (1986) cites reports of a female and two kittens in the Grand Canyon between 1889 and 1900 . . .*"

In conclusion, the authors of the Draft Recovery Plan rely on unverified information as if it is fact, to vastly increase the presumed historic range of the jaguar in North America. This is not credible science – it is pure speculation.

As required by *Bennett v. Spear*, 520 U.S. 152, 176 (1997), each agency must "use the best scientific and commercial data available" to ensure that the ESA is not implemented haphazardly, based on speculation or surmise. USFWS did not follow *Bennett v. Spear* when they reported that a jaguar with kittens was found in the Grand Canyon in the late 1800s.

Draft Recovery Plan Page 10

"One adult male was observed and photographed on March 7, 1996, in the Peloncillo Mountains in New Mexico near the Arizona border (Glenn 1996, Brown and López González 2001, U.S. Fish and Wildlife Service 2014).

Comment:

Per Copping (2017), the Peloncillo jaguar was most likely a Sierra Madre, Mexico jaguar. USFWS again failed to discuss fact verses speculation, in violation of *Bennett vs. Spear*.

Draft Recovery Plan Page 10

A second adult male (later referred to as “Macho B”) was observed and photographed on August 31, 1996, in the Baboquivari Mountains of southern Arizona (Childs 1998, Brown and López González 2001, U.S. Fish and Wildlife Service 2014).

Comment:

Macho B was lured with the scent of female jaguar scat. The data is highly tainted and should be purged from the Recovery Plan.

Draft Recovery Plan Page 10

From 2001 to 2009, a fourth adult male jaguar (referred to as “Macho A”) and the jaguar observed and photographed in 1996 in the Baboquivari Mountains (referred to as “Macho B”) were photographed (one repeatedly) by camera traps in south-central Arizona, near the Mexico border (U.S. Fish and Wildlife Service 2014).

Comment:

Per Coping (2017), Macho B was lured by McCain and Childs through baited with scat from a female jaguar in heat obtained from a zoo. Since this jaguar was secretly being lured to stay near the trail cameras set up by McCain and Childs, Macho B cannot be considered naturally occurring. Was Macho A also lured in by McCain and Childs? Data collected by McCain and Childs is unreliable and should not be used in the Recovery Plan.

Draft Recovery Plan Page 10

Furthermore, they were found using areas from rugged mountains at 1,577 m (5,174 ft) to flat lowland desert floor at 877 m (2,877 ft) (McCain and Childs 2008).

Comment:

As discussed above, McCain and Childs lured male jaguars with female jaguar scat from a zoo. Their data cannot reliably be used to state that jaguars use areas from rugged mountains to desert floors.

USFWS needs to purge all unverifiable jaguar data, including all baited or planted jaguar occurrence records, before they can begin to understand jaguar science and habitat preference.

When USFWS analyzes 10 jaguars brought into high elevation mountainous areas for canned hunts, a number of jaguar kills that only have the location of the kill after days of being chased by hunting dogs and jaguars lured into Arizona with female jaguar scent as if those jaguars choose the habitat on their own, they falsify the analysis.

The Recovery Plan needs to be discarded or rewritten. All unverifiable data, including but not limited to records of jaguars from canned and/or guided hunts, records from scent baited jaguars and records from non-credible observers, needs to be purged because it is NOT the best available data as required by the ESA.

The fact that USFWS failed to purge the unreliable data is an egregious malfeasance on the part of the agency. That failure has led to a flawed Draft Recovery Plan. Good decisions cannot come from bad data. The bad data in the Recovery Plan has been used to justify over six hundred million dollars of proposed federal spending. This is unacceptable.

As further support of the notion that numerous jaguar records are from canned hunts, circus and zoo escapees, pets that have escaped and other non-natural events, see Cuyckens et al. 2017. Figure 2 below shows at least ten or more jaguar records outside the historical range of the jaguar.

Draft Recovery Plan Page 11

*“Rabinowitz (1999, supported by Rabinowitz 2014) argues that although the jaguar cannot simply be considered an accidental wanderer into the U.S., the southwestern U.S. is marginal habitat at the extreme northern limit of the jaguar’s range... . He further concludes that **there is no indication that habitat in the southwestern U.S. is critical for survival of the species** (emphasis added).*

Comment:

The City of Sierra Vista and Cochise County agree with Dr. Rabinowitz in the fact that habitat in the USA is marginal and it not critical to the survival of the jaguar.

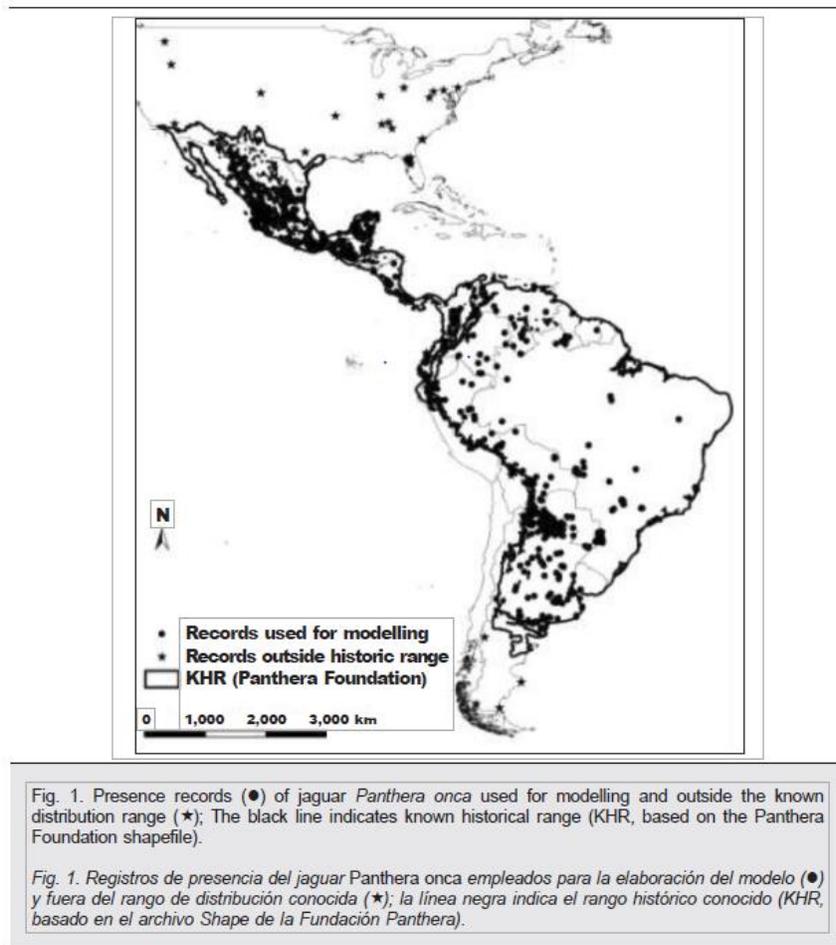


Figure 2. Jaguars outside the known distribution range are shown with an asterisk form Cuyckens et al 2017.

Draft Recovery Plan Page 11

“In contrast, McCain and Childs (2008) and Grigione et al. (2007) argue that female jaguars with young are proof that there was once a breeding population in Arizona. Brown (1983) plotted numbers of jaguars killed in Arizona and New Mexico at 10-year intervals from 1900 to 1980 and argued that the decline is characteristic of a resident population that was hunted to extinction. If the jaguars killed during this period were dispersers from Mexico, the numbers would have fluctuated erratically, not in a declining pattern (Brown 1983).”

Comment:

Though USFWS acknowledges Dr. Rabinowitz, the foremost jaguar expert in the world, they go on to discard Dr. Rabinowitz in favor of McCain and Childs, the jaguar trappers that illegally lured one or more male jaguars in the USA with female jaguar scent.

USFWS also uses Brown (1983) as if that data is reliable, without noting that Brown (1983) used 58 records when only a fraction of those are verifiable; therefore he used too many unverifiable records and failed to inform the reader that there are zero verifiable records pre-dating 1890 and only one record for the decade of 1890-1900 and a large amount of canned hunt jaguar data as if the data was from naturally occurring jaguars, thus Brown's work should also be discredited.

No reliable evidence of breeding jaguars has been documented in Arizona or New Mexico. The only reliable evidence of female jaguars in Arizona is data about one female in each 1919 and 1949; in Santa Cruz County. As detailed in the jaguar critical habitat comments provided to USFWS by biologist Dennis Parker, any past information about jaguars breeding within the United States was pure speculation. There is no indication that jaguars will ever breed in the United States unless the USFWS plans to transplant jaguars into our area. Prior to passage of the Endangered Species Act, jaguars were brought to the United States by hunting guides. Though Dennis Parker only interviewed one hunting guide, other guides were bringing jaguars to the United States as part of their hunting businesses. This crucial fact was omitted by USFWS and several biologists cited by USFWS.

Again, USFWS cherry picks to prioritize the tainted data over the best available scientific data. This ongoing behavior violates the very essence of the ESA, which requires use of the "best available scientific and commercial data."

Draft Recovery Plan Page 11

USFWS goes to considerable length to argue the "*value of peripheral populations, such as jaguar ...*."

Comment:

Rabinowitz (2012) calls this "*simply a distraction*". He states that "*The U.S. has no resident jaguar population, only likely sporadic dispersers, so the area in the U.S. is not part of a peripheral population (emphasis added). Further stating that the U.S. lands*

are important because they allow dispersers to leave the Northwestern Recovery Unit is also not supported by data, when the dispersers might in fact be returning to the core area of the recovery unit. In fact, it is more likely that the most important dispersal corridors lay to the south of the Northwest Recovery Unit. In the absence of better data, all the arguments of this proposed action fall apart."

How can USFWS cite Rabinowitz throughout the Draft Recovery Plan every time they agree with him and totally ignore the writings of Rabinowitz as if they don't exist, when they are contrary to the agency's story? USFWS cannot have it both ways. The agency needs to discuss what Rabinowitz has to say, even when they disagree.

Draft Recovery Plan Page 13

*"Jaguars use medium- and large-size prey, with a trend toward use of larger **prey as distance increases from the equator** (emphasis added) (López González and Miller 2002)."*

Comment:

This statement does not correlate at all with the USFWS designation of critical habitat more than 2,000 miles north of the equator, in the USA, based on small animals including *"coatis, skunks, raccoons and jackrabbits"* (Draft Recovery Plan Page xi).

The USFWS biologists don't know what jaguars would eat in southern Arizona and New Mexico. The agency used tiny little skunks and other small mammals as a criterion to designate "critical" habitat, yet the agency states scientific literature that documents jaguars needing large prey. What large prey is available in the USA? Livestock? USFWS does not cover this subject, though it is vital to species survival.

Draft Recovery Plan Page 13

*"In the northern most breeding population of jaguars (northeastern Sonora), Rosas-Rosas (2006) found that large prey (> 10 kg (22 lb)) accounted for > 80% of the total biomass consumed, led by cattle (*Bos taurus*; 57% of biomass), white-tailed deer (23%), and collared peccary (5%)."*

Comment:

The glaring lack of information in the Recovery Plan regarding what jaguars would eat if they were to become established in the southwestern USA needs to be addressed.

Draft Recovery Plan Page 15

“Furtado and Filoni (2008) report the most common virus in jaguars is canine distemper virus, which is known to cause high mortality in wild felids (e.g., 30% mortality in Serengeti lions) and has also caused epizootics in captive felids.”

Comment:

Canine distemper virus is common on the International Border and spreading fast <https://www.abqjournal.com/421196/canine-distemper-spreading-fast.html>. This fact was not addressed in the Draft Recovery Plan. USFWS could be endangering jaguars by attempting to attract them to the Border.

Draft Recovery Plan Page 16

“McCain and Childs (2008), based on the use of camera-traps, report one jaguar in southeastern Arizona as having a minimum observed “range” of 1,359 km² (525 mi²). It is difficult to say whether this might be a “typical” home range size for jaguars in this area due to the small number of locations for the animal and the potential influence of female jaguar scat at some camera traps at various times throughout their research.”

Comment:

McCain and Childs (2008) data is tainted beyond limits for science due to the use of scent bait to lure the jaguars from camera to camera. The McCain and Childs (2008) data needs to be removed from the Recovery Planning document and analysis. The fact that female jaguar scat was used throughout their research to lure the male jaguar makes the data illegitimate.

Draft Recovery Plan Page 18

Country	Location	Method	Habitat type	# Ind	Home range	Reference
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City of Sierra Vista and Cochise County Joint Comments on U.S. Fish and Wildlife Service. 2016. Jaguar Draft Recovery Plan (*Panthera onca*)

United States	Arizona	Camera trapping	Madrean evergreen woodland Semidesert scrub Grassland	1 M	1,359 km ²	524.7 mi ²	McCain and Childs (2008)
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Comment:

USFWS knows the McCain and Childs (2008) data is tainted, yet continues to use it as if it is valid. The Table above has no asterisk next to the data to warn readers that the data is illegitimate due to the male jaguar being lured to various locations in southern Arizona with female jaguar scat (see Page 16 of Draft Recovery Plan).

Draft Recovery Plan Page 21

*“Leopold (1959) **speculated** (emphasis added) that a jaguar killed in California in the 1950s had traveled more than 800 km (497 mi) from its point of origin”*

Comment

The above statement is an example of a fatal flaw throughout the Draft Recovery Plan. The plan is rife with speculation. Instead of using the expert opinion of Dr. Alan Rabinowitz, USFWS cherry picks data they like better because it fits their imaginary story about how the USA is essential to jaguars, though experts including Dr. Rabinowitz disagree.

Draft Recovery Plan Page 30

*“The more open, dry habitat of the southwestern U.S. has been characterized as **marginal** (emphasis added) in terms of water, cover, and prey densities (Rabinowitz 1999).”*

Comment

The dry habitat of the southwestern U.S. is **marginal**. That means it is not “critical” or “essential”.

Draft Recovery Plan Page 31

“gallery forest and forest patches were used more often than expected on the basis of their availability and open forest and grassland were used less than expected”

Comment

In the USA, open forest and grassland has been characterized as “critical habitat” for the jaguar, even if there is only 1% vegetative cover. However, USFWS notes that open forests and grasslands are used by jaguars “*less than expected*”. USFWS should never have labeled open forests and grasslands as “critical” habitat since they know the use is low to non-existent.

Since jaguars use forests, shouldn't vegetative management in the form of fuel load reduction be an important aspect to the Recovery Plan? It is glaringly absent.

Without proper fuels management, intense fires like the Monument and Horseshoe Fires in Cochise County, within areas USFWS has designated as “critical” for the jaguar, will continue to cause long term damage to soils and forests as well as grassland vegetation.

The best way to assure a healthy ecosystem with biological components necessary for a variety of wildlife in southern Arizona, is to address fuel loads. We are concerned that critical habitat designated by USFWS creates government restrictions that inhibit proper wildland management. Cochise County has an excellent Community Wildlands Protection Plan that should be reviewed and added to USFWS planning documents including this Recovery Plan if it is rewritten. See details at https://www.cochise.az.gov/sites/default/files/emergency_services/CochiseCWPP150105-WebsiteReady.pdf



Figure 3. Map of Monument Fire within the City of Sierra Vista and Cochise County, where “designated critical habitat” for the jaguar was lost.



Figure 4. Photographs of the damage caused to forested potential jaguar habitat that had high fuel loads that are not addressed in the Draft Recovery Plan.



Figure 5. Photographs of the loss of cover in jaguar “critical” habitat resulting from a human-caused wildfire Source: <https://www.azpm.org/s/14724-horseshoe-2-fire-two-years-later/> .

Draft Recovery Plan Page 32

“No formal habitat use studies have been conducted (with the exception of Núñez et al.’s (2002) examination of arroyo use) in the NRU. To better understand habitat characteristics of jaguars in the northwestern portion of their range, the USFWS sent a questionnaire in 2011 to scientists with experience or expertise in jaguar ecology (primarily in the northwestern most portion of the jaguar range) or large cat ecology. The respondents included nine members of the Technical Subgroup of the JRT and two other jaguar experts.”

Comment:

USFWS is basing their Draft Recovery Plan habitat characteristics analysis on speculation. No formal habitat studies were conducted. The majority of people on the Technical Subgroup work in other countries. No one studied the limiting factors for jaguars in the USA.

Draft Recovery Plan Page 33

“the following features constitute high-quality habitat for jaguars in the northwestern portion of their range:

- High abundance of native prey, particularly large prey, like deer and peccary, and adequate numbers of medium sized prey;*
- Water available within 10 km (6.2 mi) year round;*
- Dense vegetative cover (to stalk and ambush prey and for denning and resting), particularly including Sinaloan thornscrub;*
- Rugged topography, including canyons and ridges, and some rocky hills good for denning and resting;*
- Connectivity to allow normal demographic processes to occur and maintain genetic diversity;*
- Expansive areas of adequate habitat (i.e., area large enough to support 50 to 100 jaguars) with low human density;*
- Low human activity, development, and infrastructure, including high speed roads, mines, agriculture; and*
- No to low jaguar persecution/poaching by humans.”*

Comment:

As the Draft Recovery Plan notes, there are no prey studies, though the USFWS says that they have been working on jaguar recovery since 1972, when they “meant” to list the jaguar. If prey is important, why isn’t it being studied? Why aren’t competing species such as the Mexican wolf being discussed, since they eat the same prey?

Water availability – from maps USFWS created for critical habitat, it can be quickly proven that water on private land, including livestock water tanks, was used to determine that the habitat was “critical” for the jaguar. How can USFWS guarantee the private water sources will be there for any length of time? They can’t. Therefore, the critical habitat mapping used throughout the Draft Recovery Plan is fatally flawed.

On Page 33 of the Draft Recovery Plan, USFWS states that jaguars need “*Dense vegetative cover (to stalk and ambush prey and for denning and resting), particularly including Sinaloan thornscrub.*” On Page ix of the same Draft Recovery Plan, USFWS arbitrarily chose 1% vegetative cover as the minimum necessary for critical habitat. Do jaguars need cover or not? 1% is NOT cover.

USFWS states that jaguars need “*rugged topography, including canyons and ridges, and some rocky hills good for denning and resting.*” However, the data this assumption is based on includes baited jaguars and jaguars from canned hunts where hunting guides placed the trophy jaguar out on the ground in rugged terrain, brought hunting dogs in to chase the jaguar up a tree or to the edge of a cliff so a trophy hunter could shoot the trapped jaguar. Use of such data as if the jaguar arrived in that tree or cliff on its own is absurd. However, that is the methodology used to determine jaguar occupancy from many of the historical records.

USFWS states that “*connectivity to allow normal demographic processes to occur and maintain genetic diversity*” is necessary. Yet, USFWS had to manipulate the GIS data base to the point of meaningless parameters including 1% vegetative cover, in order to get connectivity. This type of **data manipulation to produce a map with “connectivity” is not science.** It is manipulation of data to make a map that shows a large swath of interconnected land in southern Arizona and New Mexico based on five, or possibly six male jaguars (Draft Recovery Plan Page 10), including at least one that was proven to be lured to camera locations with female jaguar scat. Over 99.9% of the land mapped as critical habitat has zero evidence of a jaguar ever setting foot there.

USFWS states that the jaguar needs “*expansive areas of adequate habitat (i.e., area large enough to support 50 to 100 jaguars) with low human density*”. However, they declare southern Arizona and New Mexico critical habitat, even though these areas do not have this parameter.

USFWS states that jaguars need “*low human activity, development, and infrastructure, including high speed roads, mines, and agriculture*” yet they declare “*critical habitat*” in areas with high and medium human activity, development and infrastructure, including high speed roads, mines and agriculture.

USFWS says the jaguar needs certain habitat characteristics that are not present in the USA. USFWS needs to re-write the Draft Recovery Plan and document the facts. The agency cannot presume large swaths of land will suddenly revert to roadless areas and become more vegetated. The agency cannot assume water on private land will remain,

especially when that water was developed for livestock and the agency actions could eliminate livestock production. Hard facts need to be incorporated into jaguar management plans. An unbiased look at what we really know and don't know is critical to the analysis.

Draft Recovery Plan Page 33

“Rangewide jaguar habitat modeling was conducted by Rabinowitz and Zeller (2010) who identified least-cost corridors connecting the 90 JCUs across the jaguar’s range.”

Comment

Throughout the Draft Recovery Plan the USFWS cites Rabinowitz and Zeller (2010), though they never provide the map displaying the jaguar corridors. In Figure 1 above, the Rabinowitz & Zeller (2010) clearly shows that **ALL JAGUAR CORRIDORS are south of the USA**. However, USFWS fails to mention this and omits the image.

Draft Recovery Plan Page 34

“Hatten et al. (2005) used a Geographic Information System (GIS) model to characterize potential jaguar habitat in Arizona by overlaying 25 historical jaguar sightings on landscape and habitat features believed important (e.g., vegetation biomes and series, elevation, terrain ruggedness, proximity to perennial or intermittent water sources, human density).”

Comment:

USFWS failed to do their homework when they cited the Hatten (2005) GIS model. The model is based on bad data:

1. As detailed in Coping (2017), Hatten et al (2005) used the 1996 Warner Glenn jaguar in New Mexico in their model, though Warner Glenn clearly let everyone know that the jaguar had been chased to the edge of a cliff in the Peloncillo Mountains by his hounds. To analyze habitat preference based on the cliff the jaguar ended up at after hounds chase that animal is not good science.
2. The Hatten (2005) GIS model also used the December 2001 Pajarito Mountain jaguar male known as “Macho A” in their model. Hatten failed to even disclose the

fact that Macho A was being baited with scat from a female jaguar in heat obtained from a zoo. Since these jaguars were secretly being lured to stay near the trail cameras, they cannot be considered naturally occurring.

3. Hatten (2005) included the Rincon Mountain 1902 jaguar in the GIS habitat analysis. As the late Mr. Herbert Brown, of Yuma, Arizona, wrote in a letter dated April 1902 regarding this jaguar record:

“I send you the photograph of a very interesting animal which was killed in the Rincon mountains, about twenty-five miles east of Tucson, on the 16th of March last; it was killed by two Mexican scalp hunters. They were in the Rincos, above the Cebadilla, when their dogs found the trail of what appeared to be a very large California lion. After a short run the animal was overtaken, and two dogs were killed in the mix-up that followed. It was finally driven into a cave, smoked out and killed.”

As noted by Coping (2017), Hatten et al. (2002, 2005) used this Rincon Mountain record in their models, gave the account a class rank of “1” for the physical evidence, and gave the site description, which they identify as Redington Pass, a rank of “2” for “good,” accuracy of 1.7km-5 km. It is unclear, however, how Hatten et al. (2005) were able to determine the location with such precision based on the general description “*above the Cebadilla.*” Nonetheless, they used this account in that manner in their model, thereby compromising its scientific integrity.

Draft Recovery Plan Page 35

“Menke and Hayes (2003) conducted a spatial analysis of potential habitat for the jaguar in New Mexico. Because only seven jaguar reports and records from 1900 to 1996 have occurred in New Mexico, Menke and Hayes identified positive and negative potential habitat features for jaguars based on literature sources and evaluations from the Jaguar Habitat Subcommittee and Jaguar Scientific Advisory Group of the Arizona Game and Fish Department (AGFD)- and New Mexico Department of Game and Fish (NMDGF)-led Jaguar Conservation Team. A GIS model was used to combine data layers for landscape features influencing suitability for jaguar habitat, and create a composite potential habitat map.”

Comment

Again – USFWS did not verify its source data. USFWS used the Menke and Hayes (2003) GIS model that has unreliable data:

1. Taylor Creek, Mogollon Mountains, Grafton, Socorro County, New Mexico 1900 jaguar - Barber (1902) reports: *“Felis hernandesii (Gray) Mr. Nat Straw, hunter and trapper, informed me that he trapped a jaguar near Grafton, on Taylor Creek, Socorro County, New Mexico, in May, 1900. He gave its length as 8 feet and 3 inches (2439 mm.) I saw the skin made up into a rug. I have heard of several others being seen or killed. It is probable that they find their way into the Mogollon Mountains by ascending the Gila River.”*

The problem with using the Taylor Creek, Socorro, NM 1900 jaguar record for a habitat model is the location is not the animal’s natural habitat. **A hunter lured the cat into a trap.** Without knowing where the animal was when it altered its course to follow the scent the natural location of the cat is unknown. The Menke and Hayes (2003) GIS model used this inaccurate data.

2. Engle, New Mexico/Truth or Consequences, New Mexico 1900 Jaguars
As documented by Copping (2017) the scientific literature is missing regarding the story of a jaguar killed December 9,1900 near what is today Truth or Consequences, New Mexico, and another sighted and fired upon in the same area two days later. It should be noted that there was a train depot at Engle, New Mexico. Engle is about 17 miles east of Truth or Consequences. Las Palomas was 7 miles south of Truth or Consequences. This is within 7 months and within about 50 miles from of the Taylor Creek account presented above. The following account of two kills and tracks of three jaguars states that **the locals believed the three jaguars escaped from a traveling show.** The Menke and Hayes (2003) GIS model used this data within doing the research regarding veracity. USFWS made the same mistake by not verifying the data.
3. Manning Ranch, Datil Mountains, New Mexico 1903 Jaguar
As detailed in Copping (2017) **this jaguar record is unverifiable and the story was changed over time.** It started out as “8/1902. Mrs. Manning. Bailey 1931. Photographed by Ned Hollister. Sex “?” Manning Ranch, Datil Mts., NM. Poisoned as a stock killer. “Adult.” Rocky Mtn Montane Conifer Forest.” The chain of retelling this story goes from Manning to Reddeman to Hollister, three years later, and finally 26 years after Hollister, to Bailey. As such, significant details may be inaccurate or possibly embellished with fiction.

The assignment of lower elevation “Rocky Mtn Montane Conifer Forest” habitat to this jaguar by Brown and Lopez-Gonzales (2000, 2001) is inconsistent with Brown and Lopez-Gonzales (2000, 2001) in assigning the 1963 Penrod jaguar kill at similar elevation to “Rocky Mtn Subalpine Conifer Forest” habitat. It is also inconsistent with Bailey (1931) who assigned the kill to pine and spruce timber habitat.

The question also remains why a “naturally occurring” jaguar and possibly another, which were allegedly representatives of a discrete, “resident population,” would suddenly move in next to humans, at 9,000 feet in elevation, kill 17 calves “near the house,” and then stay there until eliminated by poisoning. That this jaguar was obviously **habituated to human presence** is evidence indicating that it was very possibly neither “naturally occurring” nor representative of a discrete, “resident population.” As a result, use of this record for modeling of habitat purpose is unreliable.

In summary – since the Menke and Hayes (2003) GIS model only had seven jaguars and three or more are unreliable, the model is not reliable. USFWS had a duty to verify data, including the habitat models they base the Recovery Plan on.

Draft Recovery Plan Page 35 – 36

“Robinson et al. (2006) conducted another analysis of potential habitat for jaguars in New Mexico. Robinson et al. (2006) conducted another analysis of potential habitat for jaguars in New Mexico. They mapped suitable habitat based on the Jaguar Habitat Subcommittee’s criteria used to identify jaguar habitat in the U.S., which included:

- 1) The area considered must be within 80 km (50 mi) of a documented jaguar occurrence. This would include an entire mountain range, if a portion of that range is within 80 km (50 mi) of the occurrence.*
- 2) Based on Brown and Lowe (1994) habitat associations, the area must be in the Semi-desert Grassland, Plains and Great Basin Grassland, Subalpine Grassland, Interior Montane Conifer Forest, Petran Subalpine Conifer Forest, Chihuahuan Desertscrub, Arizona Upland Sonoran Desertscrub, or Great Basin Desertscrub. Areas in the Lower Colorado River Sonoran Desertscrub, Mojave Desertscrub, and Alpine Tundra are not considered jaguar habitat.*

3) *The area must be within 16 km (10 mi) of surface water, at least seasonally.*”

Comment

What makes Center for Biological Diversity employee Michael Robinson an expert on the jaguar and its habitat? As stated in Rabinowitz (2012) “*The history of this proposed action in the Federal Register clearly follows repeated responses to litigation brought about by the **Center for Biological Diversity** and Defenders of Wildlife, **who might have other agendas in mind and have little to no jaguar expertise** (emphasis added).*”

Why is this Center for Biological Diversity activist, Michael Robinson, quoted as if he were a scientist? Mr. Robinson does not have a degree in biology. According to <http://www.biologicaldiversity.org/about/staff/> **Michael Robinson is a “Conservation Advocate” with a degree in literature.** He is not a scientist. What qualifies him to prepare an analysis of potential jaguar habitat? USFWS should not blindly quote conservation advocates with political agendas as if they provide accurate unbiased information.

As a case in point, at least 17 of 24 jaguar records used in the Robinson et al. (2006) jaguar model were unreliable (Coping 2017). Many of the jaguar records used by Robinson et al (2006) completely misrepresented the jaguar’s location for purposes of modeling suitable jaguar habitat in New Mexico. The approach used by Robinson et al (2006) was both unscientific and irresponsible.

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“Boydston and López González (2005) estimated the potential geographic distribution of jaguars in the southwestern U.S. and northwestern Mexico by modeling the jaguar ecological niche from occurrence records (100 male records from Arizona [42], New Mexico [6], Chihuahua [8], and Sonora [39] and 42 female records from Arizona [6] and Sonora [36]).”

Comment:

Per Coping (2017), Boydston and Lopez Gonzales (2005) used four unverifiable female jaguars in modeling differences in spatial preferences of jaguar, the key analysis that determined the outcome of Center for Biological Diversity v. Kempthorne.

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“Grigione et al. (2009) conducted a study to construct a blueprint of priority conservation areas for jaguars, ocelots, and jaguarundis in the U.S.-Mexico border region. This was done by: 1) compiling reliable (i.e., Class I) sightings for each species from the early 1900s to 2003, 2) conducting field surveys to ascertain species presence, and 3) conducting a GIS-based habitat mapping workshop in which 29 scientists and conservationists provided information on the distribution and status of each species. Participants were asked to delineate and describe specific areas in the border region where historical and recent sightings of the three cats have occurred, resulting in a compilation of 84 Class I jaguar sightings from Arizona (20), New Mexico (8), and Sonora (56).”

Comment:

As detailed in Coping (2017), Grigione et al. (2007) used 3 jaguars, claiming them to be highly reliable records and claiming to use Girmendonk’s classification system. Grigione et al. (2007) failed to mention that **these cats were likely imported and released from cages** but did improperly mention them among the total number of supposedly naturally occurring females seen in Arizona. That methodology is both misleading and unscientific. Grigione et al. (2007) then speculated, based in part on their misrepresentation of this data, that the number of females taken in Arizona means there was an historic breeding population of jaguars in Arizona.

Grigione et al. (2007) used what they said was a mortality in Cochise County. However, all other details were unknown and therefore the record is unreliable. Coping (2017) found no corroboration of this alleged jaguar occurrence in any other documentation. Without better documentation, and a skin, or a skull or a unique photograph, this account appears fabricated because it was not documented anywhere else that we know of outside of Grigione et al. (2007). The exact year of this alleged jaguar’s occurrence is obviously not known and the entire record gives a strong appearance of either unreliable hearsay or impropriety. This record is therefore wholly unreliable and therefore unfit for scientifically credible modeling use.

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“Sanderson and Fisher (2013) used a GIS to characterize potential jaguar habitat in the NRU by overlaying 453 jaguar observations (not 452 as indicated in Table 1.3 of Sanderson and Fisher 2013) on landscape and habitat features believed

important (i.e., percentage of tree cover, ruggedness, human influence (as measured by the Human Influence Index, or HII), ecoregion, elevation, and distance from water).”

Comment:

As detailed in Coping (2017), the dataset used by Sanderson and Fisher (2013), like other datasets referenced by USFWS to form the core basis of “scientific” input for modeling of alleged jaguar decline and suitable habitat purposes are flawed.

Jaguar presence and decline in the United States since 1900 modeled by Sanderson and Fisher (2011 database) were used by the USFWS to identify distance to water for jaguars allegedly based on the compilation of 130 “undisputed” Class I reports of jaguar locations in the United States since the time the species was listed. (77 FR 161 at p. 50221). All rely on the aforementioned fatally compromised datasets for alleged scientific support.

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“Miller (2013) reports that establishment of a jaguar population in the Mexico and U.S. portions of Borderlands Secondary Area depends on three basic aspects: 1) a demographically robust core source population in Sonora, 2) suitable habitat in northern Sonora to maintain jaguars in the long-term and provide key dispersal corridors to the international border, and 3) a permeable border between the Mexico and U.S. portions of the Borderlands Secondary Area.”

Comment:

Miller does not mention that that there must be suitable habitat in the USA. Having a robust jaguar population in Mexico does not mean jaguars will breed in the USA. The jaguar would need open expanses of wildlands, water, prey, cover and solitude. These attributes are not present in the quantities and quality necessary for female jaguars, as evidenced by the lack of females here. Miller also states the border must be permeable, which may not be possible, due to National Security.

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*“This analysis suggests that **conditions are not currently favorable for establishing a long-term viable population of jaguars in the northernmost portion of the NRU** (emphasis added), most likely due to low abundance of jaguars in the Mexico portion of the Borderlands Secondary Area, relatively low*

levels of dispersal across the U.S.-Mexico border, and habitat-mediated limitations to long-term robust population growth in the U.S. portion of the NRU. If there is a specific desire to facilitate such a process of establishment, directed attention to improving any or all of these limiting factors is an essential step to achieving the long-term goal (Miller 2013)."

Comment:

We agree with Miller (2013) in his statement that we do not have the conditions favorable to establishing long term viable jaguar populations in the northernmost portion of the NRU, which is southern Arizona and southern New Mexico. The reasons the conditions are not favorable include lack of natural water sources, a potential inadequate prey base, arid climate, arid vegetation, number of people and roads, as well as existing conflicting land uses.

Most limiting factors are outside of the control of USFWS. These limiting factors are absent from areas where breeding jaguars are abundant.

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"Brousset and Aguirre (2007) proposed to implement a standard protocol for the health evaluation of wild jaguar populations in Mexico... diseases can devastate wild carnivore populations, and their effects to jaguars should be carefully monitored. If diseases are found to affect jaguar populations, steps should be taken to address this threat."

Comment:

Why does the Recovery Plan discuss a ten-year-old proposal to implement a protocol in Mexico and after the fact solutions to diseases? By now the USA and Mexico should have protocols in place to ensure wildlife species including jaguars are protected from canine distemper, rabies and other communicable diseases.

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"Rosas-Rosas and Valdez (2010) reported that jaguar habitats were degraded and conflicts between jaguars and human interests were common in Sonora. Furthermore, they reported that habitat fragmentation and illegal hunting of jaguars

and their potential prey species are probably the main threats to long-term conservation of jaguars in their northernmost western range.”

Comment:

USFWS discusses threats in Mexico yet fails to mention that jaguars are bought, sold and traded in Mexico. Though jaguars are a species listed by PROFEPA as in danger of extinction, according to <https://news.vice.com/article/its-basically-legal-for-mexican-narcos-to-buy-lions-cheetahs-and-other-exotic-pets> jaguars “are legally available if they come from accredited breeders.”

“I can get you a jaguar cub for about \$4,650 to \$5,230 (80,000 to 90,000 pesos),” said the owner of a breeding center that houses pure-bred domestic animals at a spacious, secluded property just outside Guadalajara. Showing off images of a jaguar on his phone, the breeder told VICE News he has also sold monkeys, pythons, panthers, and tigers, with the last tiger cub going for \$5,800 (100,000 pesos) about six months ago. The vendor only brings in exotic species upon receiving advance orders, but he insisted they all have the necessary permits, though he declined to disclose their origins. Given the minimal regulation in Mexico, many animal rights campaigners are more focused on ethics than legal technicalities.”

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*“The **recovery criteria** in this plan **are not binding**, and it is important to note that **meeting the recovery criteria provided below does not automatically result in downlisting or delisting the species** (emphasis added). Downlisting and delisting decisions are under the authority of the USFWS Director and must undergo the rulemaking process and analyses.”*

Comment:

According to section 4(f)(1) of the ESA, recovery plans must, to the maximum extent practicable, describe site-specific management actions as may be necessary to achieve the plan’s goals, incorporate objective and measurable delisting criteria, and estimate the time and cost required for recovery.

We do not believe the Draft Recovery Plan meets section 4(f)(1) of the ESA. The exclusions that make the recovery criteria within the plan “**not binding**” negate the intent to create actions as may be necessary to achieve the plan’s goals. The fact that USFWS

states that meeting the recovery criteria “**does not automatically result in downlisting or delisting the species**” negates the Congressional directive in section 4(f)(1) to “*incorporate objective and measureable delisting criteria.*”

In essence, no matter what is done and no matter how much money is spent, whether the jaguar will ever be downlisted or delisted is purely subjective, based on the whim of the USFWS Director. The USFWS has made jaguar recovery too subjective. We believe they did so because they do not have the data necessary to be objective.

Draft Recovery Plan Page 80

“The status of the jaguar changes to Least Concern (LC) under the IUCN Red List criteria (as defined by the World Conservation Union, <http://www.iucnredlist.org/>)”

Comment:

Under what authority is USFWS allowed to delegate its duties to the Switzerland based World Conservation Union founded by Julian Huxley? This appears to be an abrogation of Congressional authority.

Draft Recovery Plan Page 82

“Agency policies and regulations (including transportation), land use regulations, and land owner agreements in Mexico are sufficient to ensure that landscape permeability will be maintained for jaguars within the Sinaloa Secondary Area”

Comment:

Where in the ESA does it state that USFWS can delegate its power to another country to set “*policies and regulations*” that control whether or not an animal is delisted within the USA? The fact that USFWS wants Mexico to use a hammer instead of a carrot approach to jaguar management is troublesome. Solving the underlying social issues in Mexico would do more to help the jaguar than policies and regulations about landscape permeability.

Draft Recovery Plan Page 84

*“We do not currently have baseline occupancy information for these Areas; therefore, **we do not know the level of occupancy necessary for jaguars** (emphasis added) in the NRU.”*

Comment:

Another significant flaw in the Draft Recovery Plan is the use of 60% occupancy of certain areas as delisting criteria. Since the agency does not have baseline occupancy data, it is impossible to measure change. If an area has 100% occupancy now, the 60% occupancy criteria would be a 40% reduction. There is nothing to measure the 60% against. Until there is baseline data, percent occupancy criteria are meaningless.

Draft Recovery Plan Page 84

“We do not know if gene flow currently occurs between the Core Areas.”

Comment:

The amount of unknown data is significant. Encouraging other countries to want to understand the genetics of the jaguar for conservation takes a different approach that offered in the Draft Recovery Plan. Third world countries with poverty and hunger issues need help to make cultural shifts that benefit people so that those same people will want to conserve their natural resources. This philosophical shift away from regulations that punish people for basic survival activities toward a win:win approach will do more to save jaguar habitat in the long term.

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“Agency policies and regulations (including transportation), land use regulations, and land owner agreements in the U.S. and Mexico are sufficient to ensure that landscape permeability, including two or more trans-border linkages (as described above in criterion 1.B.iv, above) will be maintained for jaguars throughout the Borderlands Secondary Area. (Factors A, D)”

Comment:

Please describe the regulatory authority USFWS has to dictate trans-border linkages through a Recovery Plan?

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“Individuals dispersing into the Borderlands Secondary Area are important because they occupy habitat that serves as a buffer to zones of regular reproduction and are potential colonizers of vacant range, thereby maintaining normal demographics, as well as allowing for possible range expansion (U.S. Fish and Wildlife Service 2014). Additionally, populations at the edge of a species’ range, such as those in the NRU, play a role in maintaining the total genetic diversity of a species; in some cases, these peripheral populations persist the longest as fragmentation and habitat loss impact the total range (Lomolino and Channell 1995, 1998; Channell and Lomolino 2000). The NRU is essential for the conservation of the species; therefore, consideration of the spatial and biological dynamics that allow this unit to function and that benefit the overall unit is prudent. Providing connectivity between the U.S. and Mexico is a key element to maintaining those processes (U.S. Fish and Wildlife Service 2014). Therefore, trans-border connectivity in the Borderlands Secondary Area is an important component of jaguar recovery in the NRU.”

Comment:

Per Rabinowitz (2012) *“The jaguar south of the border is doing quite well in many areas and has been shown to have genetic connectivity through designated landscape corridors. There is NOTHING about the lands in the SW U.S. that is critical to the continued survival of the jaguar as a species. **When the report discusses the potential importance of peripheral populations to the genetics of a species, this is simply a distraction. The U.S. has no resident jaguar population, only likely sporadic dispersers, so the area in the U.S. is not part of a peripheral population** (emphasis added). Further stating that the U.S. lands are important because they allow dispersers to leave the Northwestern Recovery Unit is also not supported by data, when the dispersers might in fact be returning to the core area of the recovery unit. In fact, it is more likely that the most important dispersal corridors lay to the south of the Northwest Recovery Unit. In the absence of better data, all the arguments of this proposed action fall apart.”*

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“4.2. Recovery Action Outline and Narrative”

and

5.1 Responsible Parties and Cost Estimates

The value of this plan depends on the extent to which it is implemented; the USFWS has neither the authority nor the resources to implement many of the proposed recovery actions throughout the species' range outside of the U.S. The recovery of the jaguar is dependent upon the voluntary cooperation of many other organizations and individuals who are willing to implement the recovery actions. The implementation schedule identifies agencies and other potential "responsible parties" (private and public) to help implement the recovery of this species. This plan does not commit any "responsible party" to carry out a particular recovery action or to expend the estimated funds. It is only recognition that particular groups may possess the expertise, resources, and opportunity to assist in the implementation of recovery actions. Although collaboration with private landowners and others is called for in the recovery plan, no one is obligated by this plan to any recovery action or expenditure of funds. Likewise, this schedule is not intended to preclude or limit others from participating in this recovery program.

Comment:

Since the vast majority of these actions need to occur south of the International Border, who is going to fund the recovery plan? That is not clear in the current draft.

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Number	Action Number				Cost Estimate by FY (by \$1,000s)	Comments	
1a, b	4.2. 9.	Establish, improve, enforce, and/or fund implementation of laws and procedures to protect jaguar habitat.	3.3.1. B.i.-vi. 3.3.2. B.i.-vi.	Continuous	PROFEPA; PGR; Local, State, and Federal Legislatures; AGFD; NMGFD; FWS; All	71,548	Costs for improving enforcement of existing laws are based on adding a minimum of 6 additional PROFEPA agents per Core and Secondary Area in the NRU in Mexico (24 total additional agents), plus transportation, communications, and equipment. Costs for establishing and improving laws are included in action 6.3. below.

Comment:

The current Draft Recovery Plan is written from a narrow, traditional point of view. Spending over seventy one million dollars on enforcement of existing laws is the usual stick instead of the carrot. It is time to change to a more inclusive twenty first century approach.

Conclusion:

The Draft Recovery Plan is based on flawed science and a paucity of verifiable data. We request the USFWS purge all unverifiable data and isolate the hard facts. USFWS needs to work with AGFD to collect more detailed data about jaguar use in the USA. The USFWS should continue to encourage other countries to do the same.

Most jaguar habitat is in third world countries where necessities including food, water and shelter for people are not being met. For jaguar conservation efforts to truly be successful a cultural and economic shift is necessary in the countries with key habitat.

Over the next thirty years, USFWS can do more for jaguars by stepping back and encouraging other countries and large cat conservation organizations to develop a comprehensive approach that includes biological field research, the identification of local

human interests, and a growing recognition of the need for cooperation across political lines. The USFWS needs to more fully appreciate the contributions of far less developed countries instead of attempting to police the globe. More can be done to maintain and restore populations of jaguars by including the human element than by encouraging other countries to emulate our overly negative regulatory big government approach.

USFWS might want to take a look at the playbook of the Cheetah Conservation Fund. The Founder and Executive Director of that organization, Dr Laurie Marker, said by training a network of regional professionals collaborating on regional cheetah strategies, *“the impact would expand from local pockets of protection dotting the cheetah’s range countries to much broader, far-reaching and inter-connected swaths”*. *“Regionalising (sic) and unifying efforts will cause the conservation impact to be exponential,”* she said (<https://bigcatrescue.org/ccf-leads-the-way-in-cheetah-management/>). USFWS and other organizations may want to consider getting involved at a very different level.

It seems time for a shift toward addressing the needs of people, sustainable food production, the role of conservancies in achieving conservation goals, integrated food management practices, and the varying cultural and social parameters. Isolated single species management practices have not worked in the past and will not work here.

USFWS and their partners may want to speak to local subsistence farmers on human-wildlife conflict issues in areas with jaguars to begin to understand the real issues. Endangered species are threatened partly because people are starving, and people are starving partly because nobody is protecting them from criminals, warlords or soldiers.

All the ivory tower esoteric planning in the world will do very little for the jaguar until the solution includes the people where the animals live. When the jaguar is no longer seen as a competitor for food or a lucrative object to sell, real progress can be made.

We recommend a very different approach to jaguar recovery that involves the people on the ground in the areas where jaguars live and thrive. Spending over six hundred million dollars to help the people help themselves will do more for the jaguar than the steps recommended in this Recovery Plan.

Thank you for the opportunity to comment. We sincerely hope that our efforts are considered.

On Behalf of The City of Sierra Vista and Cochise County



Mary Darling
Natural Resource Consultant