

TUCSON AUDUBON SOCIETY

Rosemont Comments

Final from Tucson Audubon

Paul Green and Chris McVie

1/29/2012

To Whom It May Concern: Tucson Audubon Society submits this email and attached PDF as our final and official comment on the Rosemont DEIS, in compliance with the USFS' extended comment deadline. Please disregard the comments previously submitted by us and substitute these. Enclosed please find a revised letter to you, the USFS, based on our receipt of recent information, and an appendix to our letter in the form of our letter to the ACOE regarding a possible 404 permit for the proposed Rosemont mine. We hope you will carefully consider the entirety of this PDF and look forward to your response(s) to the concerns we raise. If we can be of any further assistance, please do not hesitate to contact us."

29 January 2012

Rosemont Comments
P.O. Box 4207
Logan, UT 84323.

By email to: CoronadoNF@RosemontEIS.us

Rosemont Copper Project DEIS

We are writing in response to your request for public comments regarding the adequacy of specific analyses in the Rosemont Copper Project (RCP) Draft Environmental Impact Statement (DEIS). This application is at the request of a company (Rosemont Copper/Augusta Resource) which has no history of operating a mine nor has ever received any revenue from mineral production. Below we comment on the merits of the alternatives formulated and discussed in the document.

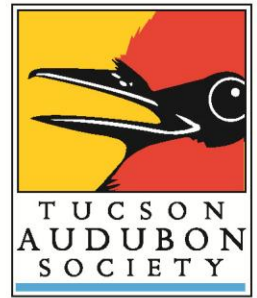
Tucson Audubon is a 501(c)(3) nonprofit organization established in Tucson in 1949. We represent around 5000 households in the region. Our mission is to protect and promote the stewardship of the biodiversity of southeast Arizona by connecting people to their natural world through the study and enjoyment of birds and their habitats.

Tucson Audubon submits comments on behalf of our membership based specifically on the potential adverse impacts to birds and other wildlife, and on broader overall community effects of the mine, as they will affect our quality of life.

Recommendation

Tucson Audubon recommends that the US Forest Service (USFS) adopts the No Action Alternative, as the National Environmental Policy requires the USFS to consider. We believe that the balance of benefits to our community does not outweigh the significant long term negative environmental impacts of developing and operating the proposed Rosemont Copper Mine. The environmental consequences of the other Alternatives (#2–6) would result in degradation and irreparable harm to our natural environment.

While we share most of the concerns expressed by the broad spectrum of opposition to the proposed project, we highlight as especial concern the following:



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and education since 1949*

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- Procedural issues of the community process and the compromised position in which the USFS finds itself as the result of working so closely with Rosemont Copper during the public process.
- A deeply flawed DEIS that has many shortcomings, and especially for us the absence of an analysis that includes the economic effects of ecotourism and the potential loss of income that the mine would bring to the region and our community
- Permanent ecological damage to Pima County's first officially designated Important Bird Area (IBA), part of a global system of peer reviewed biologically important areas, and the unknown effects on common, threatened and endangered bird species and other species of concern
- The fallacy of the jobs argument being made: jobs are being cited as an end unto themselves rather than as part of some larger plan for our community.

Procedural Concerns

As a prelude we share the concerns of others in our community that the DEIS is flawed and a supplemental EIS should be prepared. It is not possible to make properly informed decisions due to the lack of sufficient information of high enough quality.

We share the concerns of our community that the USFS allowed Rosemont Copper (RC) to participate in closed-door cooperating agency meetings and that Rosemont provided advice and recommendations to the Forest Service regarding the preparation of the draft Rosemont EIS (DEIS).

The USFS allowed RC's public relations firm to organize public meetings for the DEIS so having undue influence in the success of the public involvement process, and it is not clear to us that the USFS has acted independently as the guardian of the public interest .

In order to meaningfully and substantively comment, the public must have all the economic data the Forest Service used to arrive at economic conclusions. The economic analysis presented on pp 720–730 does not include the category of wildlife viewing, but does include the quaint "hunting and trapping" category. The economic activity around wildlife viewing surpassed that related to hunting some years ago and this needs to be acknowledged in the DEIS. What is the negative effect of the proposed widespread habitat destruction and degradation on wildlife viewing? What are the direct, indirect and cumulative economic

impacts of all recreational uses within the proposed mine's sphere of activity? What is the complete cost benefit picture? This analysis needs to be done. We suggest that RC fund an in depth analysis of the above wildlife viewing economic activity based on US Fish and Wildlife Service data to be published this year from its 2011 data set.

We share the concerns of our community regarding the accuracy of other information also:

- USFS may have accepted technical analyses submitted by RC without critical review (e.g., economics, hydrology, etc.). For example, there needs to be much more extensive modeling and study of the impacts to the watershed and groundwater by Rosemont as detailed in a letter from the Sonoran Institute
- there is significant missing information, including references in the DEIS to analysis the Forest Service will do between draft and final that should have been in the draft to be meaningful
- the analysis is in places too confined both in terms of its geographic and temporal scope (when and where will maximal impacts occur?)

Economic impact analysis

The USFS has used a deficient economic analysis that examines only one side of the economic equation: the economic benefits of the proposed Rosemont mine while ignoring the negative economic impacts to other sectors. An in depth analysis needs to be done using the best available scientific information.

In a 2001 survey, the US Fish & Wildlife Service reported that one-third of outdoor enthusiasts take at least one wildlife watching trip per year, and 70% visit forest land to do so. The "2001 National and State Economic Impacts of Wildlife Watching" report is available at http://library.fws.gov/nat_survey2001_economics.pdf.

The most recent economic analysis available using US Fish and Wildlife Service data states that ecotourism is worth \$1.5 billion dollars to Arizona each year. The Southwick analysis examined the economic impacts of watchable wildlife on a county by county basis in Arizona.

Looking at the three counties that would be most impacted by the proposed Rosemont mine we find that, in Santa Cruz County, retail sales generated \$11,940,965 with a total multiplier effect of \$22,710,453. The 236 full and part-

time jobs generated by watchable wildlife accounted for salaries and wages of \$6,241,035. State sales taxes and fuel tax revenues brought in \$678,203 while state income tax revenues were \$154,772. Federal income tax revenues were \$1,074,941.

Cochise County generated retail sales of \$13,723,013 with a total economic effect of \$25,887,890. The 273 watchable wildlife created jobs brought in \$7,087,004 in total household income. State tax revenues accounted for \$960,632 (sales and fuel, \$773,554; income, \$187,078). Federal income tax revenues were \$1,302,541.

Last, but certainly not least, Pima County watchable wildlife produced retail sales of \$173,544,691 with a total multiplier effect of \$326,536,328. This created 3,196 full and part-time jobs earning salaries and wages of \$90,726,309, contributing state sales and fuel tax revenues of \$9,908,109, state income tax revenues of \$2,267,822, and federal income tax revenues of \$15,820,112 (Southwick Associates, Economic Impact Analysis of nonconsumptive wildlife-related recreation in Arizona. 2003. Conducted for the Arizona Game and Fish Department by Southwick Associates in conjunction with the Responsive Management project, Arizona Residents' Attitudes Toward Nongame Wildlife. Available at http://tucsonaudubon.org/images/stories/conservation/AZ_County_Impacts_-_Southwick.pdf). We recommend that Rosemont repeat these analyses using the latest data from 2011.

The Santa Rita Mountains represent a well-known ecotourism hot-spot in this region and birders come from all over the world to bird this area. This in turn provides revenues to the Forest Service through the fee that so many birders and bird guides pay to visit the Santa Rita Mountains. If this ecotourism were reduced because of direct, indirect and cumulative impacts of the mine, this would directly impact the Forest Service and the various communities, from Tucson to Sonoita, that benefit so much from ecotourism.

In short, the DEIS ignores the economic role of public lands, mountains and open space in supporting local economic health, it ignores existing Forest Service research documenting the economic importance of public land resources, such as the Santa Rita Mountains, and relies uncritically on economic impact modeling funded by Rosemont and based on Rosemont-specified assumptions. Why has the Coronado National Forest done no independent economic impact modeling of its own, or commissioned any economic impact modeling? Income from

tourism is a sustainable source of income, assuming that the resource is managed and protected. The proposed Rosemont mine has the potential to destroy a sustainable regional resource for short term gain.

Aside from ecotourism, the DEIS understates the size of the general visitor economy that could be negatively impacted by degrading the Santa Rita Mountains in the southeast Arizona region (Cochise/Santa Cruz/Pima County). Degrading public lands substantially reduces our attractiveness as a place to live, work, and do business. Over time these negative economic impacts are larger than the relatively small positive economic impacts claimed by the proposed mine.

Until such a time as we have a more comprehensive document, it is prudent to recommend the No Action alternative.

Impact of Ecological Function of the region (pp 349–415)

The DEIS indicates that the RCP would destroy the ecological functioning of around 6278 acres (p 391) for hundreds of years to come through direct impacts, with indirect impacts upon an additional 138,912 acres. The DEIS states that the destruction of the ecological function of these areas “may have the potential to impact animal behavior. For the majority of the species, the impact is not expected to have far-reaching consequences for population viability. However, because of the magnitude, intensity, length, and around-the-clock timing of the project, all special status plants and animals that occur in the area are expected to be impacted.”

The DEIS continues “There would be significant vegetation losses and changes in the area, resulting in a decrease in nesting, overwintering, foraging, and roosting habitat for dozens of species of migratory and resident birds. Every species currently occupying the area would potentially experience a reduction in individuals and population size.”

“Current activities such as livestock grazing, combined with the proposed project, would cumulatively contribute to a general loss of native grassland and woodland habitats; noise, air, and light pollution; and degradation of riparian habitats.”

We note that “for many species, surveys were not conducted, and it is not known whether these species actually occur within the analysis area.” We note that 26 species “were retained for further analysis of impacts for the proposed

RCP” but potential impacts were not addressed in the DEIS (p.354). These future analyses are focused on the mine footprint and do not, for example, address the effects of the loss of 63 springs due in part to lowered water table as a result of groundwater pumping and the effects of that pumping on birds that depend upon such sites.

The DEIS mentions three bird species by name, namely the federally endangered Mexican Spotted Owl, Southwestern Willow Flycatcher, and Western Yellow-billed Cuckoo, and includes the list provided by Tucson Audubon in 1998 as part of the Santa Rita Mountains Important Bird Area (p 384).

We note that, on January 5th, 2012, the US District Court for Arizona found that the Forest Service failed to monitor populations of the Mexican Spotted Owl as required by a 2005 agreement with the U.S. Fish and Wildlife Service (USFWS) and that, in October 2008, the Service issued a report admitting it had not done the monitoring. The District Court’s recent ruling prevents the Forest Service from implementing several large-scale forest projects in New Mexico and Arizona that could have a negative impact on the Mexican Spotted Owl until USFWS can approve a new plan for protecting the bird. The Forest Service failed to address this outstanding issue when evaluating impacts of the proposed Rosemont mine on the Mexican Spotted Owls in the Santa Rita Mountains. The Forest Service fails to, and must, include a detailed plan that will monitor the population trends of the Mexican Spotted Owl and fulfill its obligation to conserve its most imperiled wildlife in the Rosemont DEIS.

Recent studies by scientists at the University of Arizona reveal the importance of the Sky Islands to migrating birds in the western US. This is especially true in the fall and for species that have an interrupted molt. The Santa Rita Mountains are one of the key Sky Islands these birds depend upon to migrate successfully.

Our Sky Island habitats are vital to those western fall migrants that have an interrupted molt strategy. More eastern species tend to complete their molt on their breeding grounds before heading south. Some western species, however, leave their breeding grounds and head south and then interrupt their migration to stop in favorable habitat to molt their feathers. Our Sky Islands, including the Santa Rita Mountains IBA, are important molting areas. This pattern of interrupted molt and migration is more prevalent in birds of the west—with approximately 50% of species and subspecies using this strategy—than the east where only about 10% exhibit this behavior. It is thought that this difference is due to arid conditions found throughout the west in early summer which

diminishes available food when birds are undergoing this physiologically demanding process. The abundance of food found in the Sky Islands during the late summer and fall fill the gap in available resources and the birds travel to these areas to take advantage of these resources. These birds are following a chain of stopover sites and we need to preserve the integrity of this chain to ensure their survival. Some of the species that show interrupted molt and migration are Lazuli Bunting, Painted Bunting, Western Kingbird, Lucy's Warbler, Western Tanager, Lesser Goldfinch and Bullock's Oriole.

Migration and molt are very taxing on birds, and for some species migration is the time of greatest mortality. However, the benefits of superabundant resources and decreased competition at distant breeding locations outweigh the high costs of migration from winter quarters. The success of this gamble, however, depends on suitable migratory stopover sites along the way. The destruction of the section of the Santa Rita Mountains under the footprint of the mine, and the extensive habitat areas that will be affected by changes in surface and subsurface hydrology, will likely have significant negative influences on the molting grounds of these birds.

Birds and Biodiversity

Tucson Audubon established and continues to implement the Arizona component of the global Important Bird Areas program, initiated in 1982 by BirdLife International. The Audubon network within Arizona has thus far established 42 Important Bird Areas in our state. Each is established using standard and strict scientific data that are reviewed by an independent panel of scientists in our state. The Important Bird Areas Program helps birds by setting science-based priorities for habitat conservation and promoting positive action to safeguard vital bird habitats.

The proposed Rosemont Copper Mine falls within the Santa Rita Mountains Important Bird Area, our state's first IBA, recognized in 2003. It is Tucson Audubon's responsibility to identify and address any threats to this Important Bird Area as they might affect the birds and the habitats that support those birds in this region.

We find that the proposed operations of Rosemont Copper would significantly and negatively affect the birds of this Important Bird Area.

The Santa Rita Mountains IBA contains a number Species of Conservation Status of the Sierra Madre bird community that extends far south into central Mexico. These species include: Montezuma Quail, Northern Goshawk, Gray Hawk, Whiskered Screech-owl, Elf Owl, Elegant Trogon, Arizona Woodpecker, Lucy's Warbler, Black-throated Gray Warbler, Red-faced Warbler, and Virginia's Warbler.

The IBA designation is relevant to protecting critical habitats used by birds during some part of their life cycle (for breeding, migratory stopover, and over-wintering) and for conserving general biodiversity.

The Santa Rita Mountains IBA was designated in 2003 because of the significant populations of conservation status species identified in this region as the result of extensive bird surveys. The IBA contains a number of species of "conservation status" in Arizona and of the binational Sierra Madre bird community. These species include: Northern Goshawk (Apache Goshawk), Gray Hawk, Mexican Spotted Owl, Whiskered Screech-Owl, Bell's Vireo, Montezuma Quail, Elegant Trogon, Arizona Woodpecker, Violet-crowned Hummingbird, Lucifer Hummingbird, Costa's Hummingbird, Buff-breasted Flycatcher, and Varied Bunting.

Other "species of concern" that occur within the IBA include: Golden Eagle, Peregrine Falcon, Band-tailed Pigeon, Elf Owl, Eastern Bluebird (Azure Bluebird), Northern Beardless-Tyrannulet, Greater Pewee, Gray Flycatcher, Cordilleran Flycatcher, Bell's Vireo, Virginia's Warbler, MacGillivray's Warbler, Lucy's Warbler, Black-throated Gray Warbler, Grace's Warbler, Red-faced Warbler, Rufous-winged Sparrow, Arizona Grasshopper Sparrow, Cassin's Sparrow, and Botteri's Sparrow. Buff-collared Nightjar, a rare species in Arizona, is also present. Winter brings Red-naped Sapsucker, Black-chinned Sparrow, and Lawrence's Goldfinch to the IBA. We would be happy to provide the complete table of the status and organization that lists these species in Arizona.

The USFS *Sensitive and T & E Region 3 Species List – Birds* (part of the table of AZ IBA avian species of conservation status), includes species that would be found within this IBA, and would be affected by Rosemont mine operations, they include: Apache Northern Goshawk, Gray Hawk, Gould's Turkey (high potential to impact), Yellow-billed Cuckoo (high potential to impact off-site), Whiskered Screech-Owl (potential to impact), Buff-collared Nightjar, Broad-billed Hummingbird (potential to impact), Violet-crowned Hummingbird (potential to impact), Lucifer Hummingbird (potential to impact), Northern Beardless-

Tyrannulet (high potential to impact off-site), Buff-breasted Flycatcher, Abert's Towhee (potential to impact), Arizona Grasshopper Sparrow (high potential to impact), and the Varied Bunting (high potential to impact).

The mine project site ranges in elevation from 4,400 to 6,300 ft and supports a variety of upland habitat with vegetation characteristics of Madrean Evergreen Woodlands and Semi-desert Grassland. We see the development of this mine seriously and permanently affecting the northern portion of the Santa Rita Mountains north of Box Canyon. The project will degrade the habitat of woodland and grassland dependent bird species. Some of these species find their prime habitat in Arizona in this region and habitat within the elevation range of the project, including (and most threatened by mine operations) the following Arizona conservation status species (all high potential to impact on-site): **Montezuma Quail, Gould's Turkey, Eastern Bluebird (Azure Bluebird), Bell's Vireo, Lucy's Warbler, Rufous-winged Sparrow, Botteri's Sparrow, Arizona Grasshopper, Cassin's Sparrow, and Varied Bunting.**

Given even just the proposed mine's admitted anticipated impacts, we do not believe successful mitigation or mine reclamation, in which disturbed land is returned to a functional and viable wildlife habitat that would support the birds of conservation status listed above, is possible. The present plant community has been developing over thousands of years and, given the dry climate of southern Arizona it is uncertain how long it would take to develop the structure and function that we see today. Many of the bird populations would be eliminated locally in the northern Santa Rita Mountains, thus reducing the size of the remaining population, and further fragmenting population distribution. Habitat and hence bird population fragmentation has already led to endangered status and candidate status for two Arizona bird populations the DEIS mentions, the Southwestern Willow Flycatcher and the western population of the Yellow-billed Cuckoo. It is possible that the proposed Rosemont mine, combined with expanding development in southern Pima County and northern Santa Cruz County, could severely reduce populations of nesting birds of the ten species mentioned above, leading them down the path to endangered species status, something that we all want to avoid. Certainly, that is in part what Pima County's decade long, national award winning conservation planning process has been designed to address. Pima County's Section 10 Incidental Take Permit (ITP) and Multi-Species Habitat Conservation Plan (MSHCP) is close to being finished and their Sonoran Desert Conservation Plan (SDCP) and Conservation Land System (CLS) is designed to protect the county's biodiversity and balance development

while mitigating for any disturbances to our most valuable resources, such as the Santa Rita Mountain IBA. The DEIS is rather simplistic in how it considers bird populations will respond to the habitat destruction of the proposed mining operation.

While Arizona state law may deny a connection between ground water and surface water, biologists and other scientists understand that the two are connected. If the completed pit is not backfilled, we would receive a pit lake of up to 1,000 feet deep. Pit lakes have been responsible for the deaths of significant numbers of birds in the west in the recent past. The lake would lower the nearby aquifer by draining groundwater into the pit and effectively dewatering the downslope area in perpetuity with negative effects on wildlife habitat, significantly increasing the sphere of the mine's potential adverse impacts on a regional watershed scale.

Further we are concerned with the water table impacts to downstream high quality riparian habitats, particularly Davidson Canyon and Cienega Creek, designated Outstanding Arizona Waters (OAW). In general, an OAW is a surface water that is classified as an outstanding state resource water under R18-11-112 and has to meet one or both of the following: 1) The surface water is of "exceptional recreational or ecological significance," or 2) threatened or endangered (T&E) species are known to be associated with the water body and maintenance and protection of existing water quality is essential to the maintenance of the threatened or endangered species or the surface water provides critical habitat. We believe the risks and high likelihood of adverse impact to water quality to be significantly high (based on numerous other water quality violations at patented mine claims throughout southern Arizona) that the proposed Rosemont mine plan of operations should not be approved.

We share the January 5th, 2012 concern expressed for Davidson Canyon and Cienega Creek by EPA Water Division Director Alexis Strauss when he reminded the ACOE that, with ADEQ support, EPA and ACOE had cooperated in 2009 in designating both waterways "outstanding waters" and "aquatic resources of national importance". According to a January 16th, 2012 story by Wick Communication's Dick Kamp, Strauss wrote,

"The proposed project site supports 101.6 acres of waters.....in the Cienega Creek watershed, providing sediment transport and deposition downstream....groundwater recharge, hydrologic.. geochemical...and biological connectivity to the Santa Cruz River. Davidson Canyon Wash is

a rare spring-fed, low elevation desert stream supporting a variety of rare flora and fauna. Seven federally listed endangered or threatened species occur within or adjacent to the project area to which adverse impacts are reasonably foreseeable.

"Corps regulations prohibit issuance of a 404 permit if it would jeopardize the continued existence of listed species or water quality...standards....in addition, pursuant to section 303 of the Clean Water Act....the states Outstanding Water designation means that both Davidson Canyon Wash and Cienega Creek must be afforded the highest level of protection and that no degradation of water quality is acceptable.

"Based on our review...of the Public Notice....and alternatives analysis submitted by the applicant...compliance with 404...guidelines has not been demonstrated."

Lastly, noise and light disturbance should be addressed as related to wildlife avoidance. We expect noise sensitive species such as the Golden Eagle to avoid the northern portion of the Santa Rita Mountains, and hence this species would lose significant foraging habitat. In combination with the encroaching development around the Santa Rita Mountains, the permitting of Rosemont mine operations may together cause local abandonment of this species from the mountain range. Other species sensitive to noise and lights, which would effectively lose significant habitat, include Montezuma Quail and Gould's Turkey.

Given the rapid and widespread human growth in southern Arizona, our public lands are key to the survival of most of the Arizona wildlife legacy of southern and southeastern Arizona. Tucson Audubon therefore considers that it is absolutely critical to manage the Coronado National Forest within the Santa Catalina, Nogales, Sierra Vista, and Douglas Ranger Districts for wildlife and recreational values as of highest priority within the multiple use mandate of the National Forest.

Mine operations of this type would be a single-use to the detriment of all other uses, and would significantly impact the wildlife resources and their habitat the Coronado National Forest Management Plan should seek to protect. Arizona citizens would thus be severely negatively affected in their opportunities to enjoy and benefit from natural ecosystem values.

The fallacy of the jobs argument

The 406 long-term jobs claimed to be created by the proposed mine, and the potential for indirect employment, are often cited as reasons to support the mine construction. Jobs are a means to an end, not an end unto themselves as they are portrayed in this community discussion. Jobs are created by activities that we decide are important for some larger goal for our community. The Rosemont Mine is essentially a project that pays people to destroy the valuable natural area and its many services, from economic to ecosystem, which could sustain the well-being of our community forever. Meanwhile, the ore removed will not benefit our community. It will be processed and utilized elsewhere. The absence of royalties for ore extracted is a shortcoming that needs to be fixed before such projects are considered. The potential benefits to our community are, as a result, minimal, unsustainable and brief in time. The benefits are to the foreign company and its shareholders. Meanwhile the larger goal for our community has long been to continue the switch from extractive to attractive industries. The long-term economic, ecological and viewscape detriments to our community that this mine would cause are not, and cannot be, adequately compensated by any significant long-term benefits.

Conclusion

In conclusion, Tucson Audubon recommends that the USFS adopts the No Action Alternative. We believe all Action Alternatives will degrade the overall wildlife value of the Santa Rita Mountain ecosystem and Outstanding Arizona Waters and would degrade the scientifically reviewed and independently identified Santa Rita Mountains Important Bird Area because

- The compromised position the USFS finds itself as the result of working so closely with Rosemont Copper during the public process.
- A deeply flawed DEIS that has many shortcomings including the economic effects of ecotourism and the potential loss of income that the mine would bring to our community
- Permanent ecological damage to Pima County's first named Important Bird Area, part of a global system of biologically important areas, and the unknown effects on common, threatened and endangered bird species

- The fallacy of the jobs argument being made: jobs are being cited as an end unto themselves rather than as part of some larger plan for our community.
- The vagaries of economic development associated with large scale long-term habitat degradation are being offered in exchange for the concrete assets of available clean water, intact functioning ecosystems, and tourism dollars and jobs

Sincerely

A handwritten signature in black ink, appearing to read "Paul Green". The letters are cursive and fluid, with a large initial "P" and "G".A handwritten signature in black ink, appearing to read "Christina McVie". The letters are cursive and fluid, with a large initial "C" and "M".

Dr Paul Green | Executive Director

Chris McVie | Conservation Chair

January 19, 2012

Marjorie Blaine
U.S. Army Corps of Engineers
Tucson Resident Office
5205 E. Comanche St.
Tucson AZ 85707

RE: Public Notice/Application No. SPL-2008-00816-MB

Dear Ms. Blaine:

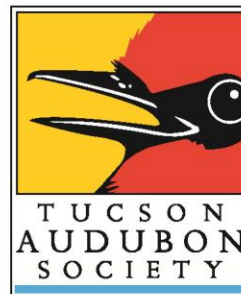
We write in response to your request for comment on an application submitted by Rosemont Copper/Augusta Resources to your office for a Department of the Army permit under Section 404 of the Clean Water Act (33 U.S.C. 1344).

Tucson Audubon is a 501(c)(3) nonprofit organization established in Tucson in 1949. We represent approximately 5000 households in the region. Our mission is to protect and promote the stewardship of the biodiversity of southeast Arizona by connecting people to their natural world through the study and enjoyment of birds and the habitats upon which birds and other wildlife depend.

Tucson Audubon submits comments on behalf of our membership based on the effects on birds, wildlife, and their habitats. **Tucson Audubon formally requests that you deny the 404 permit application submitted by Rosemont Copper/Augusta Resources.**

Deficiencies of the USFS DEIS

As a prelude, we must say that we do not believe that the Draft Environmental Impact Statement (DEIS) as prepared by the U.S. Forest Service (USFS) should be used as the basis for the ACOE's permit decision as the DEIS does not adequately analyze the potential impacts of the project. We note that the Pima County Administrator has requested that the Forest Service produce a supplemental EIS to make up for insufficient analysis and the conclusions based upon them. We do not believe that basing a decision on the DEIS would represent the best available scientific information or the best interests of the public. We see that crossings of streams on roads are described in the permit application, but the potential downstream impacts from increased total suspended solids and other pollutants are not adequately addressed. Of especial importance to us, the direct, indirect, and cumulative impacts to the portions of the Santa Cruz River designated as Traditional Navigable Waters or tributaries thereof, and important bird habitats here, are not analyzed. Furthermore, there is no indication that, as required, the Corps has independently reviewed the material submitted to it on behalf of Rosemont.



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We understand that construction of the proposed Rosemont Copper Project open pit copper mine would discharge fill material into Barrel Canyon and associated tributaries including Wasp Canyon, McCleary Canyon, Trail Canyon, and other unnamed ephemeral washes.

Effects of mine construction and operation

We read that the permit would authorize the discharge of dredged/fill material and completely eliminate 38.6 acres of waters of the U.S. (waters) tributary to Davidson Canyon and Cienega creek, both designated as "Outstanding Arizona Waters" by the state of Arizona, indirectly impact 2.5 acres, and temporarily impact 0.75 acres of potential waters of the U.S. We understand that in 2009 the EPA identified these waters as "aquatic resources of national importance", and that permanent loss and degradation of water quality and other aquatic ecosystem functions is certain, unavoidable and simply unable to be mitigated if this 4,200-acre mine is constructed and operated as proposed because of disturbance and filling of the upstream tributaries of these rare and protected aquatic resources.

Even the US Forest Service's own draft DEIS states that the destruction of the ecological function of these areas "may have the potential to impact animal behavior. For the majority of the species, the impact is not expected to have far-reaching consequences for population viability. However, because of the magnitude, intensity, length, and around-the-clock timing of the project, all special status plants and animals that occur in the area are expected to be impacted."

The DEIS continues, "There would be significant vegetation losses and changes in the area, resulting in a decrease in nesting, overwintering, foraging, and roosting habitat for dozens of species of migratory and resident birds. Every species currently occupying the area would potentially experience a reduction in individuals and population size."

"Current activities such as livestock grazing, combined with the proposed project, would cumulatively contribute to a general loss of native grassland and woodland habitats; noise, air, and light pollution; and degradation of riparian habitats."

The proposed project site supports 101.6 acres of waters, including wetlands, in the Cienega Creek watershed, providing among other things biological connectivity to the Santa Cruz River. Most critical for Tucson Audubon is the fact that the canyons and associated tributaries that would be impacted by the proposed activities feed into Davidson Canyon and Cienega Creek which in turn feed into the Santa Cruz River.

Significance of Southwest Riparian Habitat

The American Bird Conservancy's report on the "Top Twenty Most Threatened Bird Habitats in the United States" lists Southwestern Riparian Habitat as the fifth most threatened habitat type in the nation. This increasingly rare habitat type, epitomized by Davidson Canyon, Las Cienegas, and the 63 springs proposed for illumination, is described as occupying only a tiny fraction of the land area while supporting the largest concentrations of animal and plant life, and the majority of species diversity in the desert Southwest, a designated "hotspot" of biological diversity. The report states, "The scarcity of water in the Southwest makes rivers and streams particularly important for sustaining the region's communities. This dependence places a severe strain on natural ecosystems. Achieving riparian habitat

conservation depends on public agency buy-in to broad-scale land management plans, such as the Las Cienegas NCA and Pima County's national award winning Sonoran Desert Conservation Plan, and the successful provision of incentives to private property owners to restore their degraded land. Riparian areas take time to recover . . . Currently, though, efforts to restore riparian areas are being considerably outpaced by the rate at which they are being lost, making these vibrant ecosystems an ever-rarer feature of the Southwest."

Global Important Bird Areas Program

Tucson Audubon established and continues to implement the Arizona component of the global Important Bird Areas (IBA) program, initiated in 1982 by BirdLife International. The Audubon network within Arizona has thus far established 42 IBAs in our state. Each is established using standard and strict scientific data that are reviewed by an independent panel of scientists in our state. The IBA Program helps birds by setting science-based priorities for habitat conservation and promoting positive action to safeguard vital bird habitats. The IBA designation is relevant to protecting critical habitats used by birds during some part of their life cycle (for breeding, migratory stopover, and over-wintering) and for conserving general biodiversity.

The proposed Rosemont Copper Mine has the potential to negatively impact two IBAs; the Santa Rita Mountains IBA, one of our state's first IBAs, identified in 2003 and recognized in 2011 and the Upper Santa Cruz River IBA, identified in 2007 and recognized in 2011. It is Tucson Audubon's responsibility to identify and address any threats to IBAs as they might affect the birds and the habitats that support those birds in this region.

We find that the proposed operations of Rosemont Copper would significantly and negatively affect the birds of these IBAs as detailed below.

Ornithological Significance of Cienega Creek and Davidson Canyon

Cienega Creek and Davidson Canyon fall within the Santa Rita Mountains IBA. Davidson Canyon is a rare, spring-fed, low elevation desert stream supporting a variety of rare flora and fauna. It is a large tributary to Cienega Creek, entering roughly 1500 feet upstream of the Marsh Station Bridge. The Davidson Watershed drains the Empire Mountains and the northeast extent of the Santa Rita Mountains. The larger Cienega Creek receives the runoffs from Davidson Canyon as well as runoff from the eastern slopes of the Santa Rita Mountains.

On the east side of the Santa Rita Mountains lies the Cienega Creek Natural Reserve, established in 1986 by Pima County as part of the County's expansive open space preserve. Davidson Canyon is located within the Natural Reserve, while Cienega Creek Natural Reserve is located downstream from the Las Cienegas National Conservation Area ("Las Cienegas"), established in 2000, and comprised of 45,000 acres of desert grassland, riparian habitat, and oak-covered hills that connect several sky island mountain ranges. Five of the rarest habitat types in the southwest are located in Las Cienegas: cienegas (marshlands), cottonwood-willow riparian forests, sacaton grasslands, mesquite bisques, and semidesert

grasslands. This area also provides flood prevention for the protection of the City of Tucson and surrounding communities.

High vegetation density, available cover and linear configuration make Cienega Creek and its principal tributaries excellent linkages for wildlife movement between the larger protected areas of the Coronado National Forest and Empire-Cienega National Conservation Area. Protection of these resources is important to offset the fragmentation of the landscape that is occurring through urban development (i.e., housing, roads, railroad, interstate highway) and to maintain precious links in the natural landscape.

Seven federally listed endangered or threatened species occur within or adjacent to the project area to which adverse impacts are reasonably foreseeable. The Arizona Important Bird Areas team has conducted 41 surveys in Cienega Creek and has observed many riparian obligate bird species utilizing this habitat. Gray Hawks (high of 1 per survey) have been observed using the area on several survey occasions and other raptors that were observed using the area include Harris's Hawk, Zone-tailed Hawk, Cooper's Hawk and Sharp-shinned Hawk. **Yellow-billed Cuckoos** (high of 7 per survey) have also been recorded by our surveys and their presence indicates that this riparian area is of high quality. Many riparian species of conservation concern were recorded in this area including: Broad-billed Hummingbird (high of 5 per survey), Northern Beardless-Tyrannulet (high of 4 per survey), Bell's Vireo (high of 21 per survey), Abert's Towhee (high of 10 per survey), Rufous-winged Sparrow (high of 6 per survey), Lucy's Warbler (high of 22 per survey), and Yellow Warbler (high of 28 per survey). Other riparian bird species that are not species of conservation concern, but show this area to contain healthy riparian habitat include: Yellow-breasted Chat (high of 27 per survey), Summer Tanager (high of 17 per survey), and Blue Grosbeak (high of 10 per survey).

The detection of migrant species during some of these surveys also shows that this area is an important stop over site for many species during migration. Lazuli Buntings (high of 14 per survey) have been found here in good numbers during migration along with Western Wood-pewee (high of 1 per survey), McGillivray's Warbler (high of 1 per survey), Wilson's Warbler (high of 1 per survey) and Black-throated Gray Warbler (high of 1 per survey).

These waters eventually feed into the Santa Cruz River, a river with two sections designated as Traditional Navigable Waters of the U.S. by the Army Corps of Engineers (ACOE) on May 23, 2008.

Ornithological significance of the Upper Santa Cruz River

The Upper Santa Cruz River's importance to regional bird populations is most evident in the substantial numbers and density of riparian obligate avian species present in the Upper Santa Cruz River IBA. One of the most notable species of conservation concern supported in this IBA is a concentration of nesting Gray Hawks (high of 7 per survey), part of the broader population of the Upper Santa Cruz River watershed, which includes nesting birds along the Rio Santa Cruz in Mexico. Arizona IBA teams have observed several Gray Hawks nesting and incubating right along the Upper Santa Cruz on the Esperanza Conservation Easement. At least one of these nests was successful as one month later, several juveniles were seen hunting together in the same area. These raptors require healthy riparian habitat with

cottonwoods for nesting and large tracts of mesquite for hunting. The successful establishment of a breeding population of Gray Hawks shows how important this area is to native birds. Degradation in the quality of the water that flows in the Santa Cruz due to the Rosemont Mine higher in the watershed could damage this and other riparian bird species that nest in this area or use it as a migratory stopover site.

Also, of conservation importance is a concentration of nesting **Yellow-billed Cuckoo** (high of 4 per survey). At present this is the only other known regional sub-population of cuckoos in the watershed. The closest nesting population occurs further south along Sonoita Creek, in Sycamore Canyon and there is another in Mexico along the Rio Santa Cruz. The presence of this isolated population speaks to the high quality of the riparian vegetation in this corridor. This species requires healthy desert riparian woodlands comprised of native willows, mature Fremont cottonwood and dense mesquite, an assemblage that only occurs along healthy, flowing waterways such as the Upper Santa Cruz River.

Other species of conservation concern supported in this IBA are notably dense populations of: Lucy's Warbler (high of 40 per survey) which nest in the mesquite stands and forage in the riparian vegetation, Bell's Vireo (high of 22 singing males per survey) which nest and forage in the riparian zone, and Abert's Towhee (high of 13 per survey) which is an year-round resident and riparian obligate species. Three rarer species of concern found in the IBA, but little elsewhere along the Santa Cruz River corridor in the U.S. are the Northern Beardless-Tyrannulet, Varied Bunting (high of 7 per survey), and Rufous-winged Sparrow (high of 10 per survey). This corridor also provides key habitat for neotropical migrant species, such as the nesting Summer Tanager (high of 45 per survey), Yellow Warbler (high of 29 per survey), Tropical Kingbird (high of 5 per survey), and Yellow-breasted Chat (high of 29 per survey), all of which are abundant in the IBA. The riparian habitat of the Upper Santa Cruz is of high enough quality to attract SW Willow Flycatchers which require thickets of willow along running water.

This riparian corridor is also an important habitat for migrating birds. Some of the migratory species that have been observed by IBA survey teams using this habitat during migration include Lazuli Buntings (high of 150 per survey in 2008 and 80 per survey in 2011) and Western Wood-Pewee (high of 4 per survey). These Lazuli Buntings were observed congregating and foraging in large groups during peak migration time, indicating that this riparian habitat serves as a valuable stopover site along migratory routes. The Santa Cruz River corridor also serves as an important habitat for wintering species with native grasses providing a valuable food source for many birds, notable Brewer's Sparrows (high of 553 per survey), a species of conservation concern.

Ecosystem Services of Birds

Birds contribute irreplaceable ecosystem services. According to the American Bird Conservancy's 2007 report, "Birds play an important role in maintaining the ecosystems on which humans depend to maintain our quality of life and civilization. For example, birds eat billions of insects each year that left unchecked could decimate our crops. Birds also play an important role as pollinators, providing a fundamental service to agricultural production that simply cannot be replaced by other means." "Birds are also superb "canaries in the coal mine", or indicators of environmental health and change. Rapid

declines in bird numbers have alerted us to the harm being caused to humans and the environment by toxic chemicals. The knowledge we gain from birds directly affects our quality of life and our understanding of how economic development can be made more environmentally sustainable.” See the report at <http://www.abcbirds.org/habitatreport.pdf>

Conservation and Multiple Uses

The state of Arizona is now one of the fastest growing areas in the United States. To preserve and protect our quality of life, and in order to maintain the resilience and flexibility of the ecosystem that our public health and safety depends on, we must seek a balance between uses that will enable certain scientifically identified lands to be preserved in perpetuity. Pima County has already funded the purchase of biologically significant lands along and adjacent to Davidson Canyon and Las Cienegas with voter approved open space bonds to implement the nationally renowned Sonoran Desert Conservation Plan. Pima County is close to completion of its federal Section 10 Incidental Take Permit (ITP) and Multi-species Habitat Conservation Plan (MSHCP).

There is certainly precedence for this approach. Not all public lands are managed equally. Some are established in order to protect specific values, including cultural and historic sites and uses, natural hydro-geologic processes, and wildlife.

The citizens of our country and the world enjoy the various diverse habitats within the Coronado National Forest’s multiple units, much of which is designated multiple use. Yet even the very definition of “multiple use” in the Multiple-Use Sustained Yield Act of 1960 recognizes “that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.”

Even Wildlife 2012, the Arizona Game and Fish Department’s Strategic Plan for the Years 2007-2012, states that the goals of its wildlife program are “to conserve and preserve wildlife populations and habitat; to provide compatible public uses, while avoiding adverse impacts to populations and habitat; and to promote public health and safety; and to increase public awareness and understanding of wildlife resources.”

Outstanding Arizona Water (OAW) Designation

In general, an OAW is a surface water that is classified as an outstanding state resource water under R18-11-112 and has to meet one or both of the following criteria: 1) The surface water is of “exceptional recreational or ecological significance,” or 2) threatened or endangered (T&E) species are known to be associated with the water body and maintenance and protection of existing water quality is essential to the maintenance of the threatened or endangered species or the surface water provides critical habitat. We believe the risks and high likelihood of adverse impact to water quality to be significantly high

(based on numerous other water quality violations at patented mine claims throughout southern Arizona) that the proposed Rosemont mine 404 permit should not be approved.

We understand that Corps regulations prohibit issuance of a 404 permit if it would jeopardize the continued existence of listed species. Apart from birds, the region includes plants (Huachuca Water umbel, Pima Pineapple Cactus, Beardless Chinch-weed, Bartram's Stonecrop, Coleman's Coralroot), mollusks (Sonoran Talus Snail), fish (Gila Chub, Gila Topminnow), amphibians (Chiricahua Leopard Frog), reptiles (Sonoran Desert Tortoise) and mammals (Jaguar, Ocelot, Lesser Long-nosed Bat). The state's "Outstanding Water" designation means both Davidson Canyon Wash and Cienega Creek should be afforded the highest level of protection, and that no degradation of water quality is allowable.

Since the 404 program contributes to the Clean Water Act goals to restore and maintain the chemical, physical and biological integrity of the nation's waters by prohibiting discharges of dredged or fill material that would result in avoidable adverse impacts to the aquatic ecosystem or the significant degradation of waters or human health and welfare conclude that the proposed project is the least environmentally damaging practicable alternative or meets any of the other restrictions on discharges, including the need to ensure appropriate compensatory mitigation for unavoidable impacts.

Wildlife linkages

We strongly support the detailed comments made by the Coalition for Sonoran Desert Protection (CSDP) in relation to the importance of maintain healthy wildlife linkages the reference therein to 2006 *Arizona Wildlife Linkages Assessment* (a collaboration between the Arizona Department of Transportation, Arizona Game and Fish Department, federal agencies, and non-profit organizations):

Loss of connectivity deprives animals of resources, prevents some from finding mates, reduces gene flow, prevents animals from re-colonizing areas where extirpations have occurred, and ultimately prevents animals from contributing to ecosystem functions such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species.

We need to minimize future habitat fragmentation in order to support the survival and persistence of Arizona's unique biodiversity. We need to avoid the activities proposed under this 404 permit application to protect our wildlife linkages, and the wildlife that use them, for future generations.

The proposed mine is located where three linkages connect, putting at risk the Mexican Spotted Owl, Western Yellow-billed Cuckoo and Northern Gray Hawk in addition to the long list of species of other taxa detailed by the CSDP.

Mitigation

Finally, the mitigation options selected in the permit application do not guarantee a watershed approach to compensate for the loss of headwater streams and springs, and ecosystem functions provided by this watershed. We must question whether any off-site mitigation can ever truly compensate for the impacts envisaged in this project. Mitigation parcels would have to benefit this

watershed, and mitigate the loss of the riparian resources and ecosystem functions caused by the mine development. We concur with our colleagues that a detailed functional assessment and analysis of the impacted waters of the US and the regional watershed groundwater should be completed to determine if any mitigation ratio for the project is even possible and that any proposed mitigation parcels are known and presented to the public for review and comment prior to any assumption of suitability and adequacy being reached.

Conclusion

Tucson Audubon Society respectfully requests that you deny the 404 permit application **No. SPL-2008-00816-MB** submitted by the Rosemont Copper/Augusta Resources. Our request is based upon certain irreparable damage to endangered and threatened species of plants and animals, negative effects on a series of critical wildlife linkages, direct, indirect and cumulative adverse impacts and outright damage to riparian, grassland, and woodland habitat.

In addition we support the arguments made by other organizations that cite effects on local and downstream water quality and quantity, our local economy, air quality, the local and regional water supply, transportation safety, cultural resources, regional open space, and the public health, safety and welfare of the people of southern Arizona.

It is our general opinion that the long-term and extreme environmental degradation in our region is not offset by the minor and short-term benefits to our community claimed by the applicant, which we believe are questionable at best since most of the economic benefits will be to communities out of state and overseas.

Sincerely



Dr Paul Green | Executive Director



Chris McVie | Conservation Chair